

**PRESCOTT OLLI PRESENTS ...**

**The Surface Web,  
The Deep Web,  
The Dark Web & Bitcoins**

**Some Information You Can Use ...  
*And Some Not So Much!***

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# WARNING

**The material contained in this presentation is for informational purposes only. It is not intended to facilitate violation of any local, state or federal laws.**



# The Internet is really BIG!

Figure 1. Cisco VNI Forecasts 132 Exabytes per Month of IP Traffic by 2018



An exabyte is 1,000,000,000,000,000,000 bytes

# A Bit About Bytes ...

<u>Term</u>	<u>Bytes</u>	<u>One</u>
Kilobyte (KB)	1,000	Thousand
Megabyte (MB)	1,000,000	Million
Gigabyte (GB)	1,000,000,000	Billion
Terabyte (TB)	1,000,000,000,000	Trillion
Petabyte (PB)	1,000,000,000,000,000	Quadrillion
Exabyte (EB)	1,000,000,000,000,000,000	Quintillion
Zettabyte (ZB)	1,000,000,000,000,000,000,000	Sextillion
Yottabyte (YB)	1,000,000,000,000,000,000,000,000	Septillion

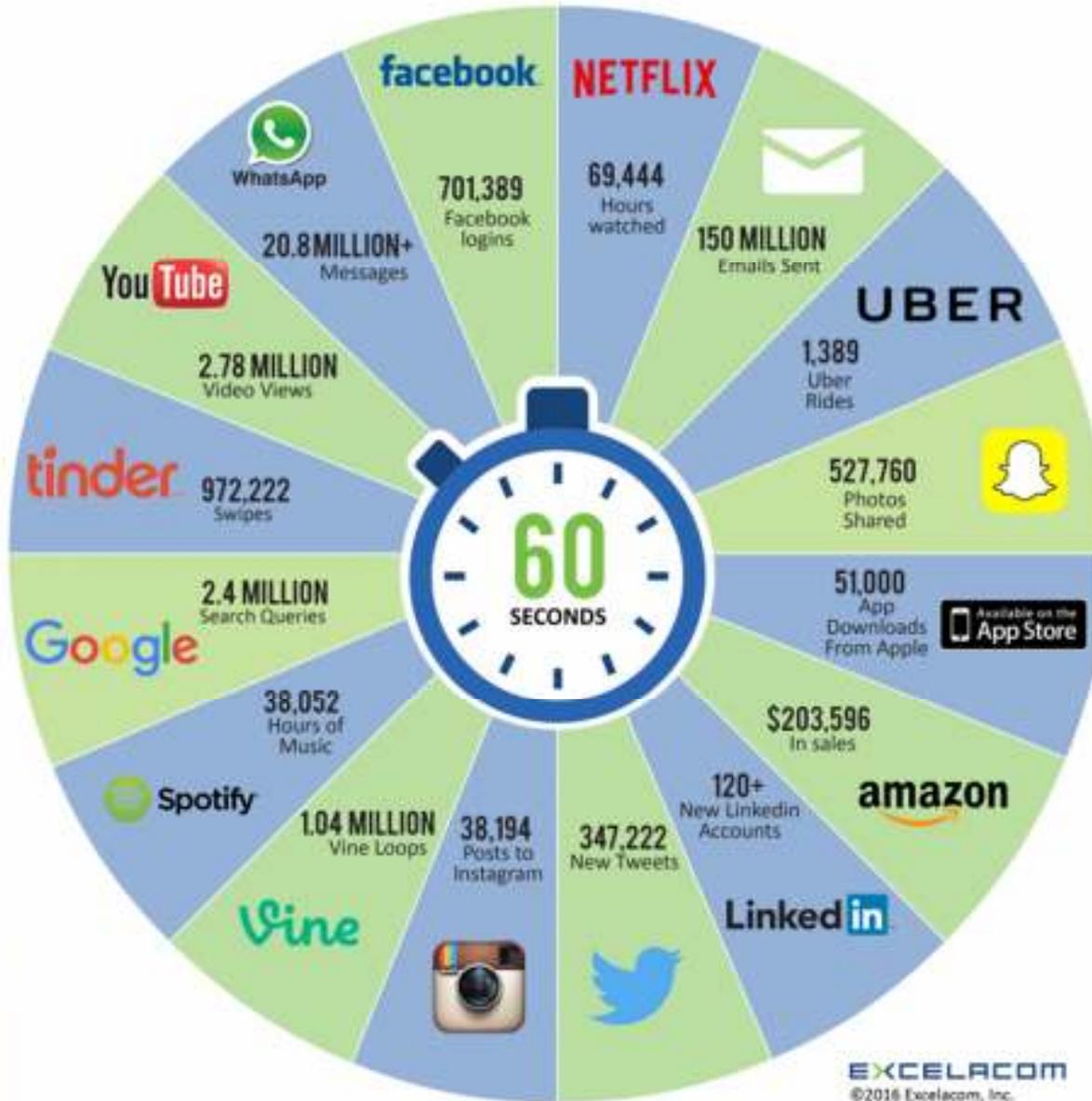
Looks good ...  
But not quite right!

<b>Name</b>	<b>Equal to:</b>	<b>Size in Bytes</b>
Bit	1 bit	1/8
Nibble	4 bits	1/2 (rare)
Byte	8 bits	1
Kilobyte	1,024 bytes	1,024
Megabyte	1,024 kilobytes	1,048,576
Gigabyte	1,024 megabytes	1,073,741,824
Terrabyte	1,024 gigabytes	1,099,511,627,776
Petabyte	1,024 terrabytes	1,125,899,906,842,624
Exabyte	1,024 petabytes	1,152,921,504,606,846,976
Zettabyte	1,024 exabytes	1,180,591,620,717,411,303,424
Yottabyte	1,024 zettabytes	1,208,925,819,614,629,174,706,176

# What comes after Yottabutes?

- Some proposals ...
  - Brontobyte (1000 Yottabytes)?
  - Geobyte (1000 Brontobytes?)
    - Gegobytes
    - Geopbytes
  - Hellabyte (1000 Yottabytes)?
  - Ninabytes (1000 Yottabytes)?
  - Tenabytes (1000 Ninabytes)?
- <http://www.forbes.com/sites/oracle/2013/10/09/extreme-big-data-beyond-zettabytes-and-yottabytes/>

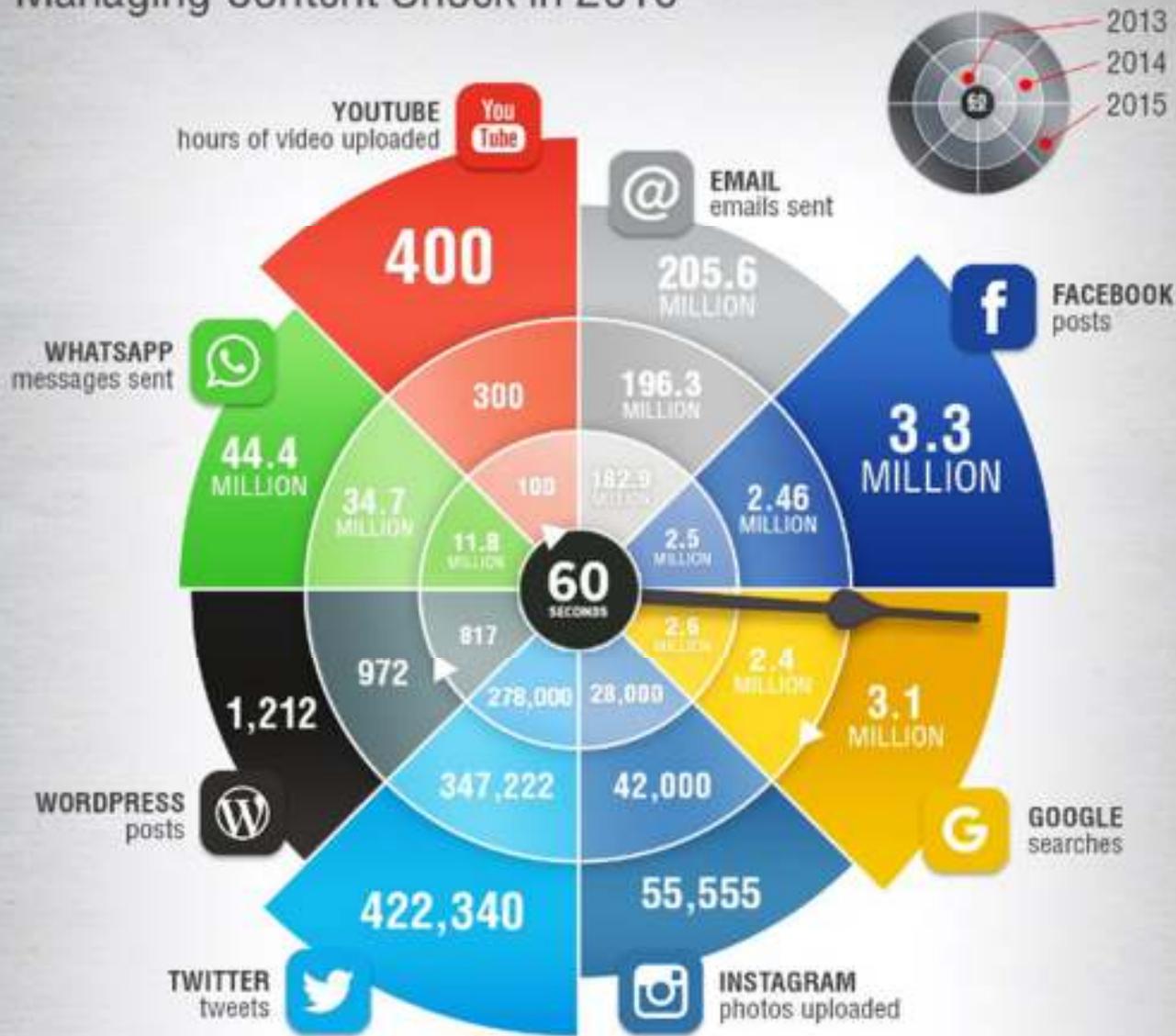
# 2016 What happens in an INTERNET MINUTE?



Another way to look at it

# What Happens Online in 60 Seconds?

## Managing Content Shock in 2016



<http://www.smartinsights.com/internet-marketing-statistics/happens-online-60-seconds/>

# Let's get that up to date!



**3,380,381,241**

Internet Users in the world



**1,033,572,125**

Total number of Websites



**206,794,384,848**

Emails sent **today**



**4,346,516,188**

Google searches **today**



**4,034,538**

Blog posts written **today**



**576,090,038**

Tweets sent **today**



**9,865,470,698**

Videos viewed **today**  
on YouTube



**57,755,057**

Photos uploaded **today**  
on Instagram



**89,514,229**

Tumblr posts **today**

<http://www.internetlivestats.com/>

# The Surface Web

- **Surface Web**
- The **surface Web** (also known as the **Visible Web**, **Indexable Web**, or **Cleartnet**) is the portion of content on the World Wide Web that may be indexed by popular search engines.
- **How is the surface web created?**
- Search engines construct a database of pages on the Internet through the use of programs called Web spiders. The spider receives a copy of each page and catalogues it, keeping the appropriate information for quick retrieval at a later date. When a new page is linked, it is eventually inspected by the spiders and added to the list of reachable pages; the surface Web. Any pages that cannot be found in this manner are part of what is referred to as the deep Web.

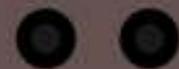


<http://www.statisticbrain.com/total-number-of-pages-indexed-by-google/>

Google Server Statistics		Data
Total number of Google servers		920,000
Total size of Google's index data		100,000,000 GB
Percent of worldwide electricity used by Google's data center		0.01 %
Year	Pages Indexed	
2014	30,000,000,000,000	
2013	22,000,000,000,000	
2012	17,000,000,000,000	
2011	12,000,000,000,000	
2010	6,000,000,000,000	
2009	3,000,000,000,000	
2008	1,000,000,000,000	
2000	1,000,000,000	
1998	26,000,000	

# Thus far ...

- Everything you have done on the Web has been on the **Surface Web**
- It's Huge
- It's growing exponentially
- You'll likely never run out of the answers, information, images, videos and music you are looking for.
- But as usual ...

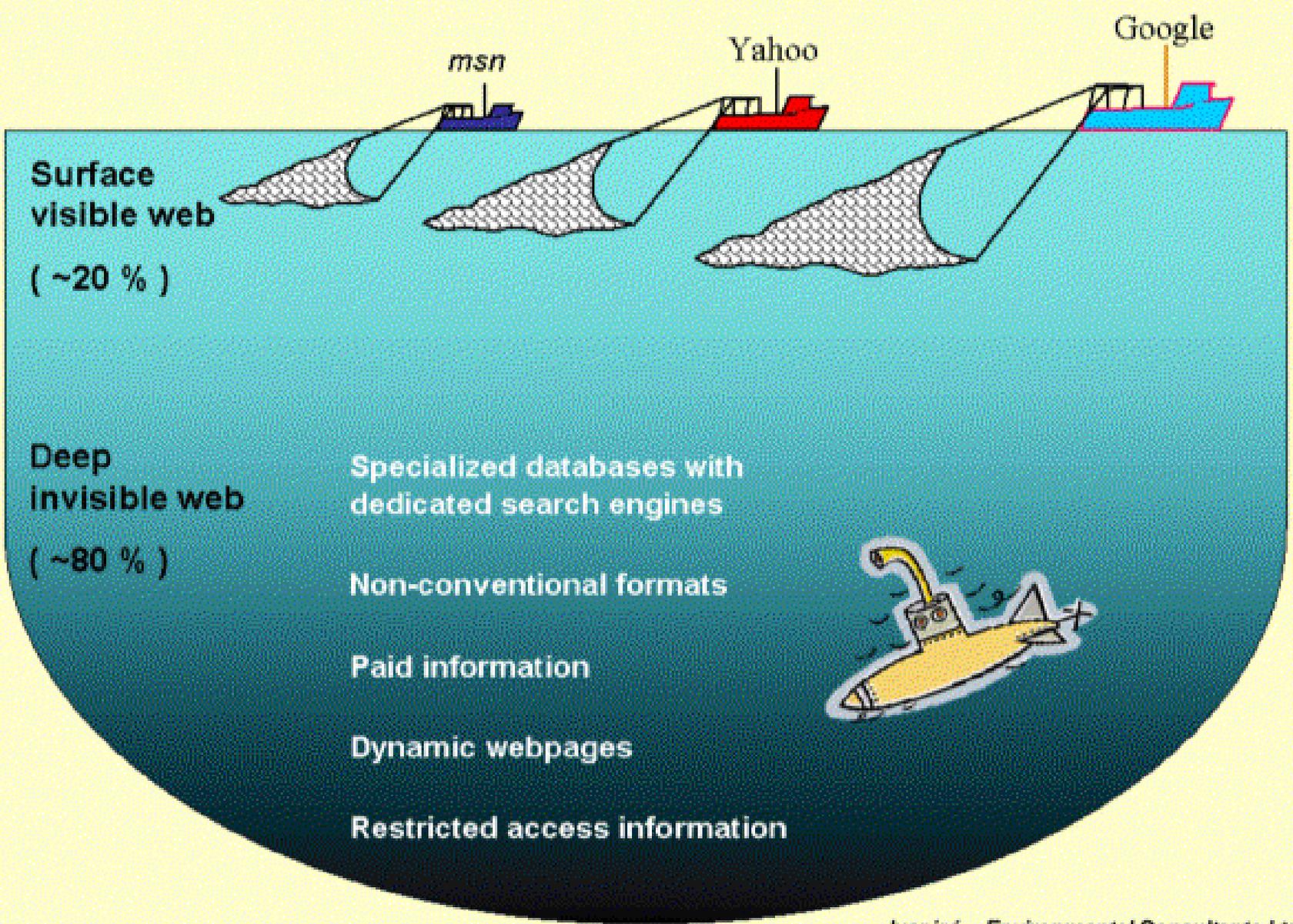


# There's Also the Deep Web

- The Deep Web refers to any Internet information or data that is inaccessible by a search engine and includes all Web pages, websites, intranets, networks and online communities that are intentionally and/or unintentionally hidden, invisible or unreachable to search engine crawlers.
- The Deep Web is also known as Hidden Web, Undernet, Deepnet or Invisible Web.

# The Deep Web

- **Techopedia explains Deep Web**
- Coined by Mike Bergman, the **Deep Web** term relates to **deep sea/ocean environments** that are virtually invisible and inaccessible. Technically, the Deep Web is a series of interconnected systems that are ***not indexed by search engines*** and only directly accessible by their creators or individuals with very limited privileges.
- The **Deep Web** contains data that is dynamically produced by an application, unlinked or standalone Web pages/websites, non-HTML content and data that is privately held and classified as confidential.
- **Some estimate the size of the Deep Web as many times greater than the visible or Surface Web.**



# The Deep Web

- Google searches the Surface Web (Visible Web)
  - Approximately **300 Trillion Pages**
- Google can't see the Deep Web pages
  - E.g. Library of Congress (<http://www.loc.gov/>)
- Deep Web pages are within specialized databases – not formatted as web pages
  - Estimated many times the size of the Surface Web

# How to Search the Deep Web



- The WWW Virtual Library
  - <http://vlib.org/>
- Deep Web Research Tools
  - [http://www.weitzenegger.de/content/?page\\_id=2321](http://www.weitzenegger.de/content/?page_id=2321)
- Deep Web Search – A How-To Site
  - <http://deep-web.org/how-to-research/deep-web-search-engines/>

# More Deep Web Search Resources



- Search the Invisible Web: 20 Resources
  - <http://websearch.about.com/od/invisibleweb/tp/deep-web-search-engines.htm>
- How to search the *Dark* Web
  - <http://www.dailydot.com/technology/how-to-search-the-deep-web/>
- 10 Search Engines to Explore the Invisible Web
  - <http://www.makeuseof.com/tag/10-search-engines-explore-deep-invisible-web/>

# Where to find Deep Web Databases



- University of California Berkeley Library
  - <http://www.lib.berkeley.edu/find/types/articles.html>
- How to Search the Deep Web
  - <http://www.wikihow.com/Search-the-Deep-Web>
- How to Mine the Invisible Web: The Ultimate Guide
  - <http://websearch.about.com/od/invisibleweb/a/ultimate-guide-deep-web.htm>

# Further Reading

- **The Ultimate Guide to the Invisible Web**
  - <http://oedb.org/ilibrarian/invisible-web/>
- **White Paper: Understanding the Deep Web in 10 Minutes**
  - <http://www.brightplanet.com/2013/03/whitepaper-understanding-the-deep-web-in-10-minutes/>

# Digital Public Library of America

- <http://dp.la/>



**A Wealth of Knowledge**  
explore 11,339,564 items from libraries, archives, and museums



# A Major Component of the Deep Web ...

- The Library of Congress

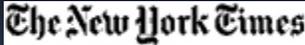
- <https://www.loc.gov/>

- It's the National Library of the United States

- [https://en.wikipedia.org/wiki/Library\\_of\\_Congress](https://en.wikipedia.org/wiki/Library_of_Congress)



# More Deep Web Info

- 7 things you probably don't know about the hidden 'deep' web (ZD/Net)
  - <http://www.zdnet.com/article/seven-things-you-did-not-know-about-the-deep-web/>
- What are some positive uses for the Dark/ Deep Web?
  - <https://www.quora.com/What-are-some-positive-uses-for-the-Dark-Deep-Web>
- HONG KONG PUBLIC LIBRARIES e-Databases
  - <https://www.hkpl.gov.hk/en/e-resources/e-databases/home/all/1>
- 
  - <http://www.bpl.org/electronic/>
- 
  - <http://www.nytimes.com/content/help/search/archives/archives.html>

# More Deep/Dark Web Resources

- 10 things you didn't know about the Dark Web
  - <http://www.zdnet.com/pictures/10-things-you-didnt-know-about-the-dark-web/>
- **The Dark Web as You Know It Is a Myth**
  - <https://www.wired.com/2015/06/dark-web-know-myth/>
- **The Ultimate Guide to the Invisible Web**
  - <http://oedb.org/ilibrarian/invisible-web/>
- **What is the Dark Web? How to access the Dark Web. What's the difference between the Dark Web and the Deep Web?**
  - <http://www.pcadvisor.co.uk/how-to/internet/what-is-dark-web-how-access-dark-web-deep-joc-beautfiulpeople-3593569/>
- **Journey Into The Hidden Web: A Guide For New Researchers**
  - <http://www.makeuseof.com/tag/journey-into-the-hidden-web-a-guide-for-new-researchers/>
- **What Is the Deep Web? It's More Important Than You Think**
  - <http://www.makeuseof.com/tag/deep-web-important-think/>

# Deep Web Research Websites



LIBRARY OF CONGRESS

- <https://www.loc.gov/>



HARVARD  
LIBRARY

- <http://library.harvard.edu/>

**UCLA** Library

- <https://www.library.ucla.edu/>

**UCI** Libraries

<https://www.lib.uci.edu/eresources>

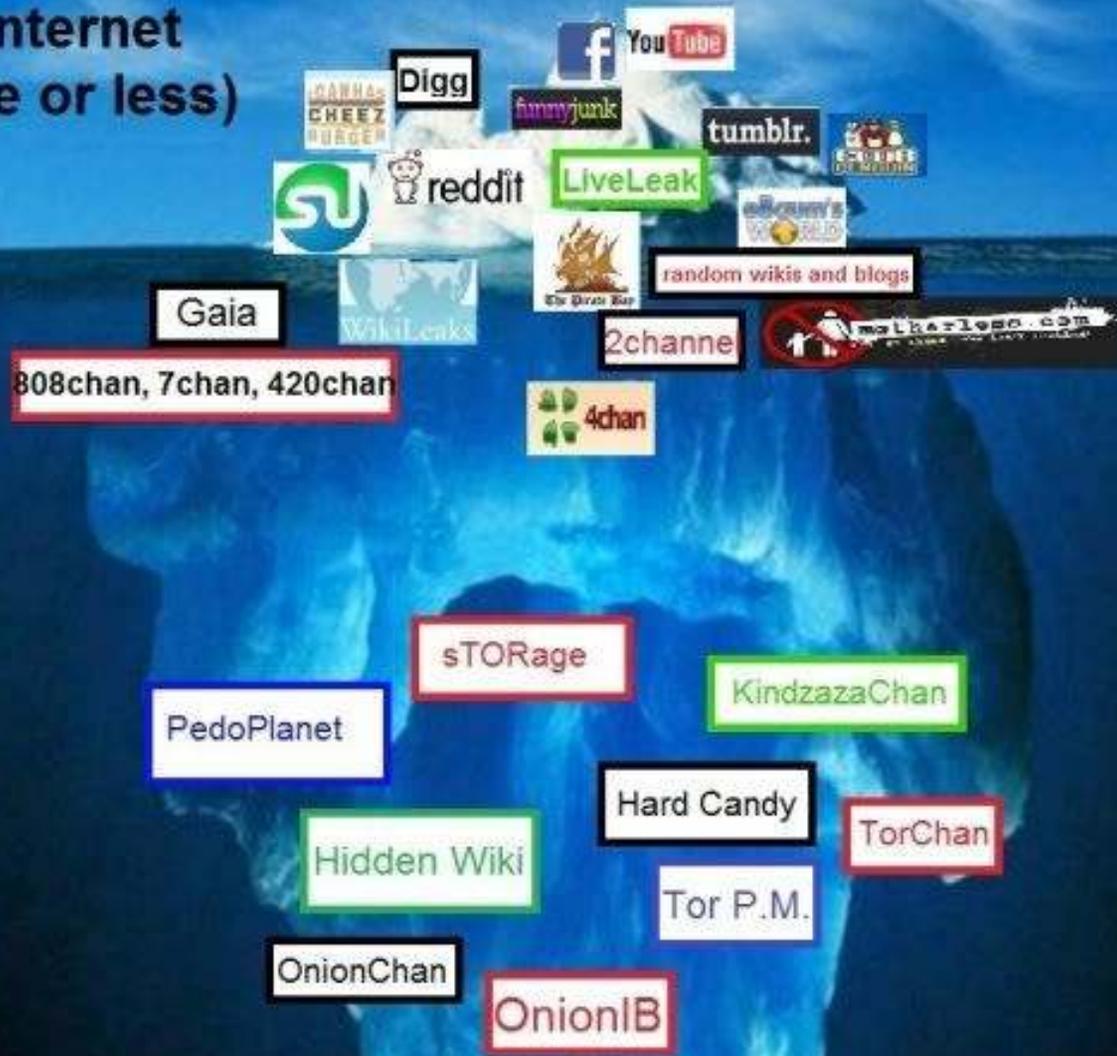
**UCDAVIS**

<https://www.lib.ucdavis.edu/ul/research/>

# StarWars On a Subway!

<https://www.youtube.com/watch?v=J5gCeWEGiQI>

# The Internet (more or less)



You can turn a computer on. Yay.

You must be really bored.

Either use a proxy, or say hi to the FBI.

# Tor is the Browser used TO access the Dark Web

- **What is Tor?** (*According to the creator of Tor*)
- Tor is free software and an open network that helps you defend against traffic analysis, a form of network surveillance that threatens personal freedom and privacy, confidential business activities and relationships, and state security.
- **Why Anonymity Matters**
- Tor protects you by bouncing your communications around a distributed network of relays run by volunteers all around the world: it prevents somebody watching your Internet connection from learning what sites you visit, and it prevents the sites you visit from learning your physical location.
- <https://www.torproject.org/>

# The Dark Web and the TOR Browser

- The TOR (the onion routing) browser is a web browser designed for anonymous web surfing and protection against traffic analysis.
- **Here's What Tor's Data Looks Like as It Flows Around the World**
  - <http://www.wired.com/2016/01/heres-what-tors-data-looks-like-as-it-flows-around-the-world/>
- Here is the map as of 1/12/2016
  - <https://torflow.uncharted.software/>



## What Tor is good for ...

- Tor is a legitimate service used by individuals living under repressive governments worldwide to communicate outside the reach of intelligence services.
- Much of the content on Tor, however, is illegal under U.S. law.
- Really Private Browsing: An Unofficial User's Guide to Tor
  - <http://www.makeuseof.com/tag/really-private-browsing-an-unofficial-users-guide-to-tor/>

# How Can I Stay Anonymous with Tor?

lifehacker

- <http://lifehacker.com/how-can-i-stay-anonymous-with-tor-1498876762>



Where is Tor?

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



The screenshot shows the Tor Project website homepage. At the top left is the Tor logo, which consists of the word "Tor" in a purple font with a stylized onion bulb integrated into the letter "o". To the right of the logo is a navigation menu with three items: "Home" (highlighted in a light green box), "About Tor", and "Docu". Below the navigation menu is a large green banner with a white border. On the left side of the banner, the text "Anonymity Online" is written in a large, white, serif font. Below this, in a smaller white font, is the text "Protect your privacy. Defend yourself against network surveillance and traffic analysis." To the left of this text is a small illustration of an onion bulb. Below the text is a purple button with a white border that says "Download Tor" in white text, followed by a small white downward-pointing arrow icon. To the right of the button is a white box with a green border containing three bullet points, each preceded by a white right-pointing arrow. The bullet points are: "Tor prevents people from learning your location or browsing habits.", "Tor is for web browsers, instant messaging clients, and more.", and "Tor is free and open source for Windows, Mac, Linux/Unix, and Android". Below the green banner are two columns of text. The left column is titled "What is Tor?" in a bold black font. Below the title is a paragraph of text: "Tor is free software and an open network that helps you defend against traffic analysis, a form of network surveillance that threatens personal freedom and privacy, confidential business activities and relationships, and state security." Below the paragraph is a link: "Learn more about Tor »". The right column is titled "Why Anonymity Matters" in a bold black font. Below the title is a paragraph of text: "Tor protects you by bouncing your communications around a distributed network of relays run by volunteers all around the world: it prevents somebody watching your Internet connection from learning what sites you visit, and it prevents the sites you visit from learning your physical location." Below the paragraph is a link: "Get involved with Tor »".

**Home** About Tor Docu

# Tor

## Anonymity Online

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

[Download Tor](#)

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

### What is Tor?

Tor is free software and an open network that helps you defend against traffic analysis, a form of network surveillance that threatens personal freedom and privacy, confidential business activities and relationships, and state security.

[Learn more about Tor »](#)

### Why Anonymity Matters

Tor protects you by bouncing your communications around a distributed network of relays run by volunteers all around the world: it prevents somebody watching your Internet connection from learning what sites you visit, and it prevents the sites you visit from learning your physical location.

[Get involved with Tor »](#)

## An Up-To-Date Layman's Guide To Accessing The Deep Web (they mean **Dark Web**)

- From FastCompany magazine (*Adult language alert*)
  - <https://www.fastcolabs.com/3026989/an-up-to-date-laymans-guide-to-accessing-the-deep-web>
- How To Access The Deep Web (Tor)
- Where To Go Once You're On The Inside
- New Sites To Explore
- First of all, what are you looking for?
  - Drugs? Guns? Assassins? Credit cards or counterfeit cash
- Could be a treacherous journey.
- **Don't say I didn't warn you.**

# IS IT LEGAL?

**YES** You use it as you would any other Internet browser. Many people are now beginning to use TOR as a way of maintaining their privacy whilst online.

## WHO ELSE USES IT



MILITARY



POLICE



JOURNALISTS



WHISTLEBLOWERS

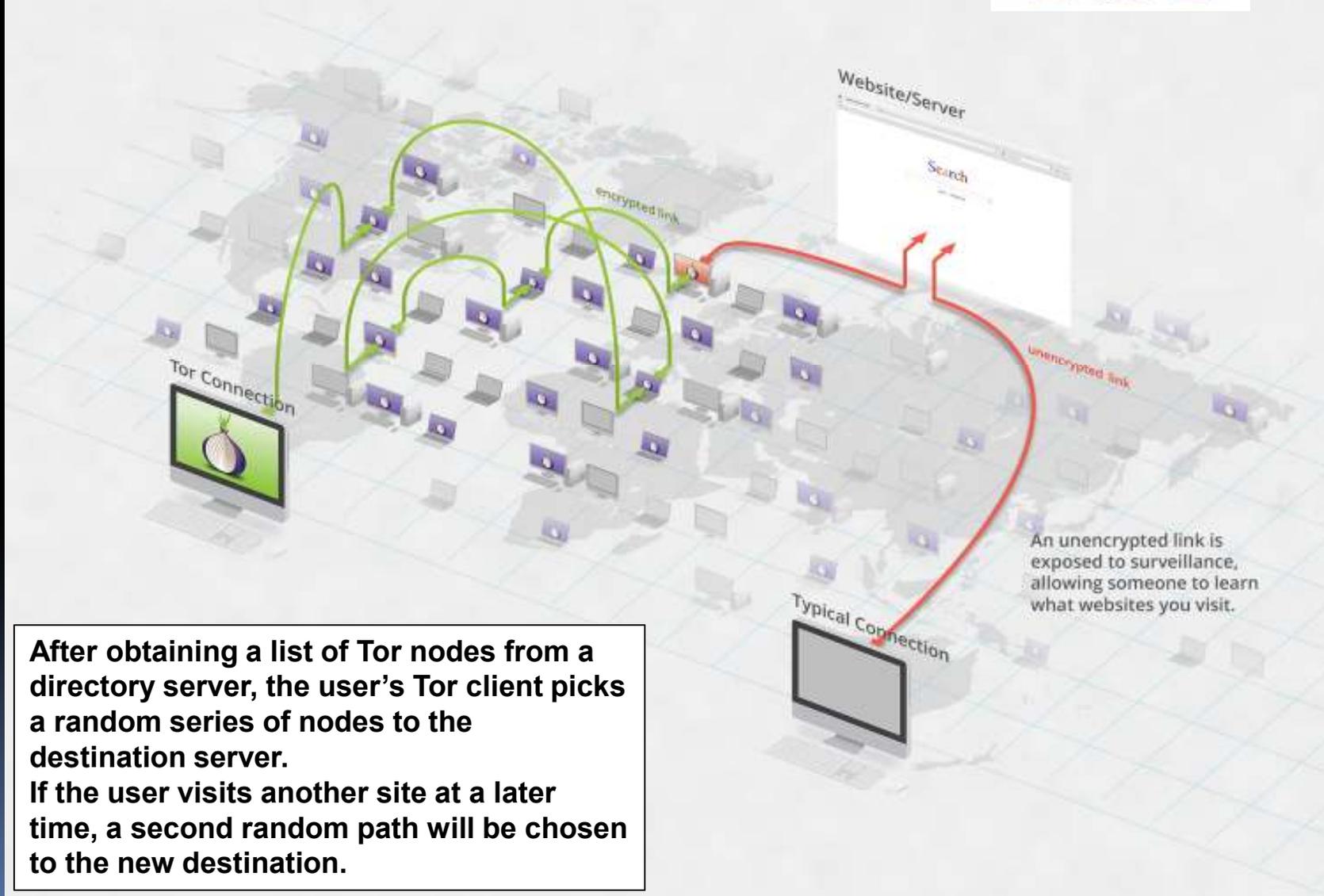
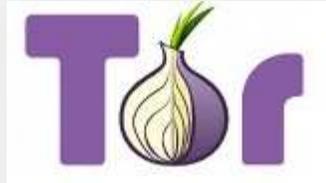


Edward Snowden



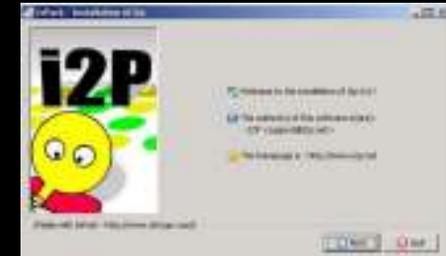
Julian Assange

## How Tor Works:



# Best Alternatives to Tor Browser to Browse Anonymously

- Tor alternative #1: I2P
- Tor alternative #2: Tails
- Tor alternative #3: [Subgraph OS](#)
- Tor alternative #4: [Freenet](#)
- Tor alternative #5: [Freemto](#)
  - <http://fossbytes.com/best-alternatives-to-tor-browser-to-browse-anonymously/>



## The Dark Web is scary ...

- Guns, drugs and other illegal products bought and sold
- All sorts of illegal activities occur (*hire a hit man?*)
- It's really not that hard to find out how to access it
- Anyone accessing these sites is in effect (MAYBE) totally anonymous and therefore cannot be traced
  - **There are other steps you must take to protect anonymity**
- Payments on many of these websites are nearly totally anonymous as they operate in the decentralized anonymous currency of **Bitcoins**
- Silk Road is a famous example of a Deep Web site that was found and dismantled

# What's available on the Dark Web?

Category	#. items	Pct.
Weed	3338	13.7%
Drugs	2207	9.0%
Prescription	1784	7.3%
Benzos	1193	4.9%
Books	955	3.9%
Cannabis	880	3.6%
Hash	821	3.4%
Cocaine	633	2.6%
Pills	473	1.9%
Blotter	441	1.8%
Money	406	1.7%
MDMA (ecstasy)	393	1.6%
Erotica	385	1.6%
Steroids, PEDs	376	1.5%
Seeds	375	1.5%
Heroin	370	1.5%
Opioids	344	1.4%
DMT	343	1.4%
Stimulants	292	1.2%
Digital goods	261	1.1%

# Fastcompany Magazine: Inside The Underweb: Home To Stolen Credit Cards, Pedophiles, Hit men, Drug Dealers— And Free Speech

- <https://www.fastcompany.com/3004614/inside-underweb-home-stolen-credit-cards-pedophiles-hitmen-drug-dealers-and-free-speech?partner=newsletter>

A screenshot of a web browser window displaying a website titled "Skimmer Services". The page content includes:

**Skimmer Services**  
We offer: Wincor & Diebold skimmers [Flash] + camera.  
All products can work about 24hrs from battery.  
Possible to develop a model for other ATMs special for you.  
Price for listed models: 2000\$. Rent is possible too.  
Rent terms: 1000\$ deposit + 30% skimmed dumps (70% for you, 30% for us).  
Product can be delivered worldwide, shipping fees included in price.  
All info will be provided with skimmer [installation manual, software & firmware + datasheet]  
Contact us: [\[redacted\]](#)  
P.S: Sorry for page look. We are not designers. :)  
Some photos. Wincor:

A photograph of a small, dark, rectangular electronic device, likely an ATM skimmer, resting on a light-colored tiled floor. The device has a simple, boxy design with a small opening on top.

## Skimmer Services

We offer: Wincor & Diebold skimmers [Flash] + camera.

All products can work about 24hrs from battery.

Possible to develop a model for other ATMs special for you.

Price for listed models: 2000\$. Rent is possible too.

Rent terms: 1000\$ deposit + 30% skimmed dumps (70% for you, 30% for us).

Product can be delivered worldwide, shipping fees included in price.

All info will be provided with skimmer [installation manual, software & firmware + datasheet]

Contact us: [skimmer@skimmer.com](mailto:skimmer@skimmer.com)

P.S: Sorry for page look. We are not designers. :)

Some photos. Wincor:

# Betcha never ran across a website like this with a Google search!

The screenshot shows a web browser window with the address bar displaying `http://ianxz6zefk72ulzz.onion/index.php`. The page title is "Welcome! | Silk Road". The browser's address bar also shows "silk road darknet". The page content includes a navigation bar with "Welcome", "messages(0)", "orders(0)", "account(฿0)", "settings", and "log out" with a shopping cart icon showing "(0)". The main content area features a "Shop by category" list on the left, a "Step-by-step" guide on the right, and a "recent feedback" table at the bottom.

**Silk Road**  
anonymous marketplace

Welcome  
messages(0) | orders(0) | account(฿0) | settings | log out  
🛒 (0)

**Shop by category:**  
Cannabis(203)  
Ecstasy(35)  
Psychedelics(127)  
Opioids(39)  
Stimulants(68)  
Dissociatives(9)  
Other(197)  
Benzos(43)

**Step-by-step:**  
1. Get **anonymous money**  
2. Buy something here  
3. Enjoy it when it arrives!

Vacation mode. Important info for  **sellers...**

seller	rating	feedback	
<b>1UP of Canada(97)</b>	4 of 5	amazing weed. the only reason this is not a 5 is because the package was so tightly double vaccuum sealed that the product was flattened, which I know is necessary for security but it still decreases quality	<a href="#">item</a>
<b>CaliforniaSunrise</b>	5 of 5	Fast shipping. Nice packaging. I haven't tried the chocolate yet, but it looks tasty! Smooth transaction.	<a href="#">item</a>
<b>Rook</b>	5 of 5	all good! thanks so much!	<a href="#">item</a>
<b>illy</b>	5 of 5	Very friendly. Fast Shipping. Great packaging.	<a href="#">item</a>
<b>somatik</b>	5 of 5	Order arrived quickly and as described. Thanks!	<a href="#">item</a>
<b>gamely54</b>	5 of 5	No issue at all, I officially recommend this seller. Now go forth and purchase from him!	<a href="#">item</a>
<b>mellowyellow</b>	5 of 5	Item arrived quickly and as described, good communication. This guy's legit.	<a href="#">item</a>
<b>dirtysouf(100)</b>	5 of 5	looks good	<a href="#">item</a>

1 hit of LSD (blotter) ฿0.58  
1/8 oz high quality cannabis ฿2.05  
1 g pure MDMA (white) ฿1.28



- Weaponry(41)**
- Firearms(13)**
- Handguns(8)**
- Ammunition(7)**
- Melee(8)**
- Apparel(3)**
- Art(26)**
- Books(129)**
- Computer equipment(4)**
- Digital goods(70)**
- Drug paraphernalia(33)**
- Drugs(1831)**
- Electronics(14)**
- Food(1)**
- Forgeries(15)**
- Home & Garden(3)**
- Lab Supplies(6)**
- Medical(6)**
- Money(80)**
- Services(48)**
- XXX(52)**

sort by

title	price	seller	ship from	
Taurus 990	\$108.72	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
Smith and Wesson Model 625 JM	\$175.70	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
Glock 26 9MM like new	\$139.02	DBush(100)	United States of America	<a href="#">add to cart</a>
Glock 27 compact 40 cal	\$142.67	DBush(100)	United States of America	<a href="#">add to cart</a>
Beretta US M9 w/fac. laser NIB Govt' Issue	\$204.36	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
9mm Machine Pistol with Silencer	\$187.32	DBush(100)	United States of America	<a href="#">add to cart</a>
Desert Eagle .44Mag	\$347.19	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
Ruger P89	\$82.73	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
Beretta 92FS Italian new in box	\$166.14	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
Desert Eagle 50AE Brushed Chrome	\$294.49	DBush(100)	United States of America	<a href="#">add to cart</a>
Raging Bull 454	\$147.00	edgarnumbers(98)	United States of America	<a href="#">add to cart</a>
AR15 .5.56mm NATO pistol	\$165.84	DBush(100)	United States of America	<a href="#">add to cart</a>
Glock 17 9mm	\$161.28	DBush(100)	United States of America	<a href="#">add to cart</a>

# DARK Web – a true service economy!

If you need the job done in the EU, you must pay me in advance 5000 EUR in preparation for the job.  
If you need the job done outside the EU, you must pay me in advance 10 000 EUR in preparation for the job.  
\*This money is required for me to purchase the weapon, vehicle of transport, ticket to the target's country, etc

To eliminate:

- Ordinary person: 20 000 EUR
- Criminal or lower rank government official: 50 000 EUR
- High rank government official: 100 000 EUR
- Paparazzi: 50 000 EUR
- Journalist: 65 000 EUR
- Business Associate: ranging from 50 000 EUR to 200 000 EUR
- Spouse: price depending on the secondary aspects of person(job, social status etc)

You are required to provide as much information about the target as possible. Necessary information includes:

- Name
- Picture (many if possible)
- Home address
- Work address
- How many family members live in the same household. (not a necessity, but good to know)
- Vehicle used for transport and registration of vehicle, along with any other identifying numbers

After the money you pay me in advance, I will purchase whatever is necessary for the mission.  
After the necessary elements have been bought and accomplished, you will pay me the rest of the money to confirm the job, and then I will execute it.

Keep in mind, the amount of time needed for such operation is crucial. The sooner you want a target eliminated, the sooner you should notify me.  
A two month headstart is perfect for me.

If you expect me to do such job, I expect you to trust me. We are both anonymous, and a bond of trust is required for such jobs to be successful.

You can contact me and send target information at: [fritz@formail.net](mailto:fritz@formail.net)

# Some Light Shines in the Dark Web

## *The Demise of Dread Pirate Robert*

- Here's the Secret Silk Road Journal From the Laptop of Ross Ulbricht
  - <http://www.wired.com/2015/01/heres-secret-silk-road-journal-laptop-ross-ulbricht/>
- Prosecutors Trace \$13.4M in Bitcoins From the Silk Road to Ulbricht's Laptop
  - <http://www.wired.com/2015/01/prosecutors-trace-13-4-million-bitcoins-silk-road-ulbrichts-laptop/>
- Follow The Bitcoins: How We Got Busted Buying Drugs On Silk Road's Black Market
  - The link for this is spooky
  - Just search on the text string above

## SILK ROAD WAS RUN BY ROSS ULBRICHT (DREAD PIRATE ROBERTS) UNTIL ...

2. On or about January 26, 2013, **ROSS WILLIAM ULBRICHT, a/k/a "Dread Pirate Roberts," a/k/a "DPR,"** communicated with the UC via the Internet, and told the UC that the Employee had been arrested by law enforcement and that the Employee had stolen funds from other Silk Road users. **ROSS WILLIAM ULBRICHT, a/k/a "Dread Pirate Roberts," a/k/a "DPR,"** asked the UC to arrange for the Employee to be beaten and forced to return the money, stating specifically, "I'd like him beat up, then forced to send the bitcoins he stole back. like sit him down at his computer and make him do it[.]"

3. On or about January 27, 2013, **ROSS WILLIAM ULBRICHT, a/k/a "Dread Pirate Roberts," a/k/a "DPR,"** communicated with the UC via the Internet, and asked: "can you change the order to execute rather than torture?" **ROSS WILLIAM ULBRICHT, a/k/a "Dread Pirate Roberts," a/k/a "DPR,"** wrote that the Employee "was on the inside for a while, and now that he's been arrested, I'm afraid he'll give up info[.]" and added that he had "never killed a man or had one killed before, but it is the right move in this case."



# THIS HIDDEN SITE HAS BEEN SEIZED

by the Federal Bureau of Investigation,  
in conjunction with the IRS Criminal Investigation Division,  
ICE Homeland Security Investigations, and the Drug Enforcement Administration,  
in accordance with a seizure warrant obtained by the  
United States Attorney's Office for the Southern District of New York  
and issued pursuant to 18 U.S.C. § 983(j) by the  
United States District Court for the Southern District of New York



SEALED  
BY COURT ORDER

UNITED STATES DISTRICT COURT  
for the  
Northern District of California

ORIGINAL  
FILED

MAR 25 2015

RICHARD W. WIEKING  
CLERK, U.S. DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

United States of America  
v.  
CARL MARK FORCE IV, et al

Case No.

3-15-70370

Defendant(s)

MEJ

CRIMINAL COMPLAINT

I, the complainant in this case, state that the following is true to the best of my knowledge and belief.

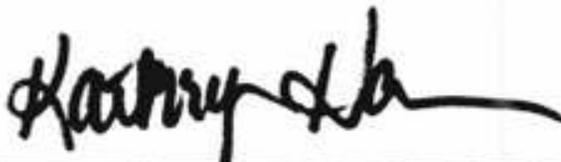
On or about the date(s) of 2012 through 2013 in the county of San Francisco in the  
Northern District of California, the defendant(s) violated:

<i>Code Section</i>	<i>Offense Description</i>
18 U.S.C. Section 641	Theft of Government Property
18 U.S.C. Section 1343	Wire Fraud
18 U.S.C. Section 1956(h)	Money Laundering
18 U.S.C. Section 208	Conflict of Interest

This criminal complaint is based on these facts:

See Affidavit of Special Agent Tigran Gambaryan (attached)

Approved as to form:

  
AUSA Kathryn Haun

# Even the Tor Browser is Under Attack

- Hackers target Tor after disrupting Xbox Live, PlayStation Network on Christmas
  - [http://www.pcworld.com/article/2863752/hackers-target-tor-as-playstation-disruption-continues.html#tk.rss\\_all](http://www.pcworld.com/article/2863752/hackers-target-tor-as-playstation-disruption-continues.html#tk.rss_all)
- Tor (The Onion Router) looks and acts like a browser (Firefox) to its users
- But, unlike Firefox, Tor routes traffic through a network of servers (relays), scattered worldwide, to anonymize the user's location
- If the servers on the network are hacked, the network would become less reliable, and less secure for its users



U.S. Immigration and  
Customs Enforcement



# THIS HIDDEN SITE HAS BEEN SEIZED

as part of a joint law enforcement operation by  
the Federal Bureau of Investigation, ICE Homeland Security Investigations,  
and European law enforcement agencies acting through Europol and Eurojust

In accordance with the law of European Union member states  
and a protective order obtained by the United States Attorney's Office for the Southern District of New York  
in coordination with the U.S. Department of Justice's Computer Crime & Intellectual Property Section

Issued pursuant to 18 U.S.C. § 983(j) by the  
United States District Court for the Southern District of New York



# Let's Look At Bitcoin – The Dark Web payment of choice



- **What is it ... and should we care?**
- Bitcoin is a **digital currency** (also called crypto-currency) that is not backed by any country's central bank or government. Bitcoins can be traded for goods or services with vendors who accept Bitcoins as payment.
- Bitcoins are created in a process called **mining**, where a computer repeatedly works through a series of calculations that are designed to be difficult to solve, but to lead to a specific answer.
- <https://medium.com/future-of-currency/4624cef09e87>

# WHAT BITCOINS MIGHT LOOK LIKE IF THEY WERE PHYSICAL.



Current value of a bitcoin ...

<https://www.coinbase.com/charts>

# Bitcoin – A Quick Overview ...

<https://www.youtube.com/watch?v=Um63OQz3bjo>

## How we get Bitcoins – by “mining”

<http://www.weusecoins.com/en/mining-guide>

# New-New-New

## The Idiot's Guide To Bitcoin

[http://idiotsguidetobitcoin.com/images/Idiots\\_Guide\\_to\\_Bitcoin\\_v1.0.pdf](http://idiotsguidetobitcoin.com/images/Idiots_Guide_to_Bitcoin_v1.0.pdf)

## So to sum up ...

- The Web as we know it is a small fraction of what's out there on the Internet
- The Deep Web has much good information – like Library of Congress – e.g., use their search engine 
- The Dark Web is a scary place that is best avoided
- There is much that is illegal, immoral and dangerous in the Dark Web
- The Dark Web has some legitimate uses (safe online access if living in a repressive regime – e.g. N. Korea, Syria?)
- Google doesn't see it, Bing doesn't either
- Now that you know all that, proceed with caution.
- And ... there is little consensus on terminology – Deep and Dark are used interchangeably. Just be aware that there are both and you can get real value from Deep.