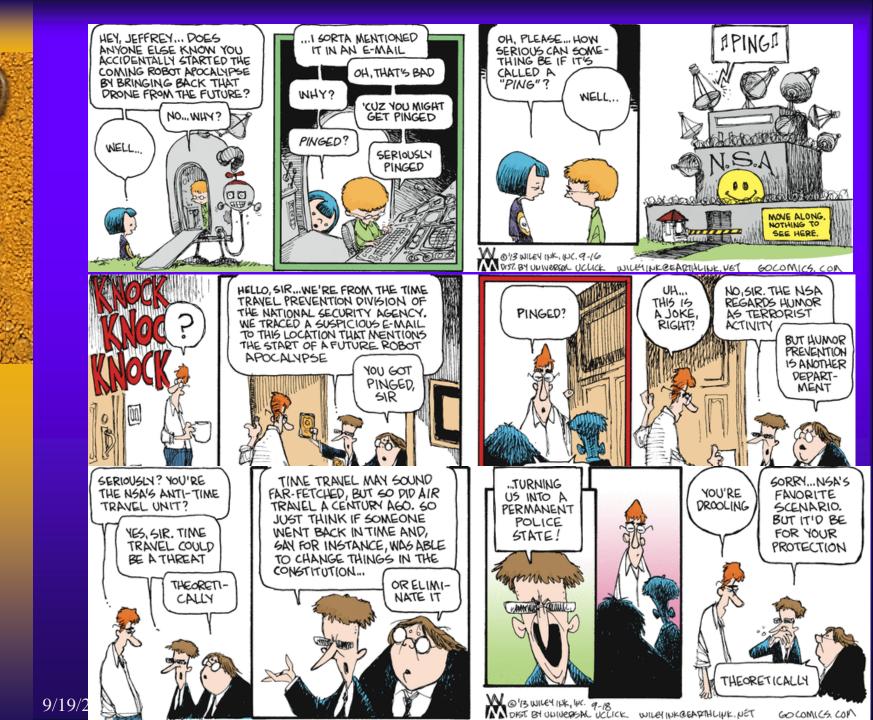


# **Constitution Day Lecture**

You Have No Right to Privacy Anyway. <u>Get Over It!!!</u>

Dr. Wayne Summers TSYS School of Computer Science Columbus State University <u>wsummers@columbusstate.edu</u> http://csc.columbusstate.edu/summers



## **HEADLINE NEWS**

- "Edward Snowden NSA files: secret surveillance and our revelations so far"
- "FISC judge orders review of secret court rulings on NSA phone surveillance"
- "NSA repeatedly ignored court surveillance rules, documents show"
- Congress Begins Investigation of NSA Domestic Surveillance Program
- "EPIC urged the FCC to determine whether Verizon violated the Communications Act when it released consumer call detail information to the National Security Agency "

## (more) HEADLINE NEWS

 "IP Cloaking Violates Computer Fraud and Abuse Act, Judge Rules"

 "Protecting Your Privacy Could Make You the Bad Guy"

# OUTLINE

- Questions
- Background (U.S. Constitution & Privacy)
- Intelligence Community and our Privacy
- Personal Privacy Issues
- Protecting Personal Privacy
- ♦ Q&A

## Questions

Should the gov't be able to monitor everyone's phone calls to prevent possible terrorism?"

- "Listen to" everyone's conversations

"Track" everyone's phone conversations (pen registers)

Should the gov't be able to monitor everyone's email to prevent possible terrorism?"

- "Read" everyone's email

- "Track" everyone's email



"Should the gov't be able to monitor everyone's email to prevent possible terrorism?"
 52% NO
 [PEW Research Center - June 6-9, 2013]



After seven weeks of steady media coverage, the percentage of Internet users worried about their online privacy jumped 19 percent, from 48 percent in June (when the story first appeared in The Guardian and Washington Post) to 57 percent in July, according to Annalect, Omnicom Media Group's data and analytics company.



# **Privacy (Confidentiality)**

freedom from unauthorized intrusion <one's right to privacy> [Merriam-Webster Dictionary]

Limiting who can access your information.



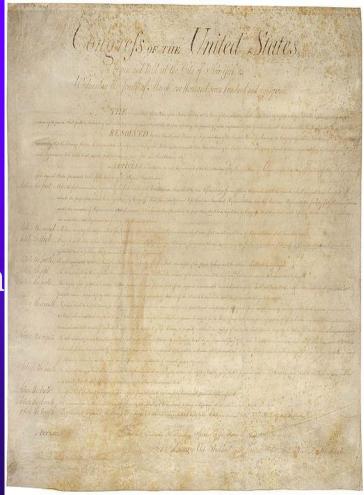
We the Deople

Minute

"The U.S. Constitution contains no express right to privacy."

Exploring Constitutional Conflicts: http://law2.umkc.edu/faculty/projects/ftrials/c onlaw/rightofprivacy.html

- Amendment I (Privacy of Beliefs)
- Amendment III (Privacy of the Home)
- Amendment IV (Privacy of the Person and Possessions)
- Amendment IX (General Protection for Privacy)



## Amendment IV

The right of the people to be secure in their persons, houses, papers, and effects, against **unreasonable searches and seizures**, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Read more:

http://content.time.com/time/specials/packages/article/0,28804,2080345\_2080344\_2 080374,00.html #ixzz2egVR9Bw1

Listen to:

http://content.time.com/time/specials/packages/article/0,28804,2080345\_2080344\_2 080374,00.html

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#### Listen to:

http://content.time.com/time/specials/packages/article/0,28804,2080345\_2080344\_2 080374,00.html

## **Privacy Regulations**

## Privacy Act of 1974

- "No agency shall disclose any record which is contained in a system of records by any means of communication to any person, or to another agency, except pursuant to a written request by, or with the prior written consent of, the individual to whom the record pertains... "
- Foreign Intelligence Surveillance Act of 1978 (or "FISA") - created a warrant procedure for foreign intelligence investigations

## **Privacy Regulations**

 Computer Fraud and Abuse Act (CFAA) 1986 [amended 1989, 1994, 1996, in 2001 by the <u>USA</u> <u>PATRIOT Act</u>, 2002, and in 2008 ]

- "Whoever...intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains— ...information from any protected computer "

http://www.gsa.gov/portal/content/104250



## **Privacy Regulations**

- Health Insurance Portability and Accountability Act of 1996 (HIPAA)
- Family Educational Rights and Privacy Act (FERPA) [Buckley Amendment] of 1974
- Financial Modernization Act of 1999["Gramm-Leach-Bliley Act" or GLB Act]: protect consumers' personal financial information held by financial institutions.
- Public Company Accounting Reform and Investor Protection Act of 2002 ["Sarbanes-Oxley Act "]: establishes new or enhanced standards for all U.S. <u>public company</u> boards, management, and public accounting firms.

## **Privacy Regulations Exemptions**

 UNITING and STRENGTHENING AMERICA by PROVIDING APPROPRIATE TOOLS REQUIRED to INTERCEPT and OBSTRUCT TERRORISM

#### (USA PATRIOT ACT) of 2001, Title II ("Enhanced Surveillance Procedures")

- PATRIOT Sunsets Extension Act of 2011 (4-year extension)
  - roving wiretaps,
  - searches of business records ( "library records provision"),
  - surveillance of "lone wolves"
- "Department [of Homeland Security] proposes to exempt portions of the system of records from one or more provisions of the Privacy Act because of criminal, civil, and administrative enforcement requirements." (A Proposed Rule by the <u>Homeland Security Department</u> on <u>05/16/2013</u>)

## What NSA, FBI... can do

- FISA, and amendments permit warrant for foreign intelligence investigations
- Supreme Court has held that there is no constitutionally recognized privacy interest in the telephone numbers intercepted by a pen register or trap and trace device
- USA PATRIOT ACT expanded pen register capacities to the Internet, covering electronic mail, Web surfing, and all other forms of electronic communications.



## What NSA, FBI... can do

- Stored Communications Access Act stored voice-mail communications, like e-mail, may be obtained by the government through a search warrant rather than through more stringent wiretap orders.
- Section 218 expands FISA to those situations where foreign intelligence gathering is merely "a significant" purpose of the investigation, rather than, the "sole" or "primary" purpose.
- Section 206 expands FISA to permit "roving wiretap" authority (allows the interception of any communications made to or by an intelligence target without specifying the particular telephone line, computer or other facility to be monitored.)



## What NSA "can do" programs

- PRISM data collection programs
- MAINWAY telephone data-mining program
- XKeyscore, allows NSA analysts to intercept the contents of e-mail and other online communications. ["has the capacity to reach roughly 75% of all U.S. Internet traffic."]
- Narus' Semantic Traffic Analyzer
  - 1. Scans metadata
  - -2. Analyzes selected data



# **BIG DATA**

- Internet carries 1.826 exabytes of data/day
  - 1 exabyte = **1 000 000 000 000 000 000 bytes**
- ♦ NSA "touches" 1.6% of the data (29.21 petabytes)
  - 2.77 terabits/sec
  - 0.025% [7.47 TB] of "touched" data is reviewed daily
  - 150 XKeyscore worldwide collection points, each keep 3-day buffer (600 terabytes)



#### Delivered-To: wsummers@columbusstate.edu

Received: by **10.194.165.101** with SMTP id yx5csp122551wjb; Mon, 16 Sep 2013 22:45:04 -0700 (PDT) X-Received: by **10.66.228.38** with SMTP id sf6mr35021115pac.21.1379396703226; Mon, 16 Sep 2013 22:45:03 -0700 (PDT) Return-Path: <bounce-mc.us6 14879815.86829-wsummers=columbusstate.edu@mail183.atl21.rsgsv.net> by mx.google.com with SMTP id Received: from psmtp.com ([74.125.149.112]) Mon, 16 Sep 2013 22:45:03 -0700 (PDT) if6si20477981pbc.73.1969.12.31.16.00.00; Received-SPF: pass (google.com: domain of bounce-mc.us6\_14879815.86829wsummers=columbusstate.edu@mail183.atl21.rsgsv.net designates 205.201.133.183 as permitted sender) clientip=205.201.133.183: Authentication-Results: mx.google.com; spf=pass (google.com: domain of bounce-mc.us6\_14879815.86829wsummers=columbusstate.edu@mail183.atl21.rsgsv.net designates 205.201.133.183 as permitted sender) smtp.mail=bouncemc.us6\_14879815.86829-wsummers=columbusstate.edu@mail183.atl21.rsgsv.net; dkim=pass header.i=new comic=3Dphdcomics.com@mail183.atl21.rsgsv.net Received: from mail183.atl21.rsgsv.net ([205.201.133.183]) by na3sys009amx228.postini.com ([74.125.148.10]) with SMTP; Tue, 17 Sep 2013 05:45:02 GMT DKIM-Signature: v=1; a=rsa-sha1; c=relaxed/relaxed; s=k1; d=mail183.atl21.rsgsv.net; h=Subject:From:Reply-To:To:Date:Message-ID:List-Unsubscribe:Sender:Content-Type:MIME-Version;

i=new\_comic=3Dphdcomics.com@mail183.atl21.rsgsv.net;

Received: from (127.0.0.1) by mail183.atl21.rsgsv.net id h6vm5q1lgi4j for <wsummers@columbusstate.edu>; Tue, 17 Sep 2013 05:44:54 +0000 (envelope-from <bounce-mc.us6\_14879815.86829-

wsummers=columbusstate.edu@mail183.atl21.rsgsv.net>)

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From: =?utf-8?Q?PHD=20Comics?= <new\_comic@phdcomics.com>

Reply-To: =?utf-8?Q?PHD=20Comics?= <new\_comic@phdcomics.com>

To: <wsummers@columbusstate.edu>

Date: Tue, 17 Sep 2013 05:44:54 +0000

Message-ID: <c007b6835f6475cf470f6e0efa0ff1c1eea.20130917054435@mail183.atl21.rsgsv.net>

List-Unsubscribe: <mailto:unsubscribe-c007b6835f6475cf470f6e0ef-3f7b8887d5-

a0ff1c1eea@mailin1.us2.mcsv.net?subject=unsubscribe>, <http://phdcomics.us6.list-

manage1.com/unsubscribe?u=c007b6835f6475cf470f6e0ef&id=e1376685f0&e=a0ff1c1eea&c=3f7b8887d5>

Sender: "PHD Comics" <new\_comic=phdcomics.com@mail183.atl21.rsgsv.net>

X-pstn-nxpr: disp=neutral, envrcpt=wsummers@columbusstate.edu

X-pstn-nxp: bodyHash=614393aea380aed81e0db599ebde7e1f79b3d486,

headerHash=dc13cf3f7d81ef786c8528c4bb4cbd85041a6718, keyName=4,

rcptHash=8b4b7bb67b4c9f772ed3b52cf7ef6cebfd734211, sourceip=205.201.133.183, version=1



### This is a multi-part message in MIME format

http://phdcomics.us6.listmanage.com/track/click?u=c007b6835f6475cf47 0f6e0ef&id=0945298c56&e=a0ff1c1eea

click here: <u>http://phdcomics.us6.list-</u> manage.com/track/click?u=c007b6835f6475cf47 0f6e0ef&id=1474e9a89e&e=a0ff1c1eea

Also, PHD is now on Google+! <u>http://phdcomics.us6.list-</u> <u>manage.com/track/click?u=c007b6835f6475cf47</u> <u>0f6e0ef&id=7e3a4b2a5f&e=a0ff1c1eea</u>

# Tracing route to phdcomics.com [69.17.116.124] from home computer

- 1 <1 ms <1 ms <1 ms 192.168.1.1
  - 2 9 ms 7 ms 7 ms 10.6.5.1

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- 3 12 ms 13 ms 13 ms 172.30.78.1
- 4 13 ms 11 ms 11 ms 172.30.30.54
- 5 11 ms 14 ms 20 ms 12.250.24.25
- 6 13 ms 11 ms 11 ms cr1.attga.ip.att.net [12.122.141.186]
- 7 13 ms 11 ms 12 ms 12.122.141.233
  - 8 17 ms 10 ms 11 ms ae15.edge5.atlanta2.level3.net [4.68.62.225]
- 9 25 ms 25 ms 28 ms 4.69.159.34
- 10 25 ms 24 ms 29 ms ae-63-63.ebr3.Atlanta2.Level3.net [4.69.148.241]
- 11 25 ms 25 ms 27 ms ae-2-2.ebr1.Washington1.Level3.net [4.69.132.86]
- 12 24 ms 26 ms 25 ms ae-81-81.csw3.Washington1.Level3.net [4.69.134.138]
- 13 42 ms 30 ms 32 ms ae-32-80.car2.Washington1.Level3.net [4.69.149.132]
- 14 25 ms 42 ms 37 ms ge1-1.bbsr1.iad.megapath.net [166.90.148.2]
- 15 29 ms 43 ms 26 ms 66.80.128.61
- 16 26 ms 27 ms 27 ms ae0-0.asbnvacz-mxc2.bb.megapath.net [155.229.57.50]
- 17 38 ms 37 ms 37 ms ae2-0.chcgilgb-mxc2.bb.megapath.net [155.229.101.169]
- 18 98 ms 93 ms 93 ms ae1-0.sttlwawb-mxc2.bb.megapath.net [155.229.101.113]
- 19 94 ms 93 ms 94 ms ae0-0.sttlwawb-mxc1.bb.megapath.net [155.229.57.85]
- 20 94 ms 93 ms 93 ms ge3-0-0.m10.stl.bb.megapath.net [155.229.101.189]
- 21 100 ms 93 ms 93 ms 155.229.120.186
- 22 86 ms 81 ms 81 ms ve191.ge0-1-0.core1.lax.megapath.net [66.80.133.18]
- 23 82 ms 81 ms 81 ms 151.ge-1-3-0.sr1.sea5.speakeasy.net [69.17.82.50]
- 24 83 ms 81 ms 81 ms webhosting.speakeasy.net [69.17.116.124]



## Violations

### NSA Violated Privacy Protections

 The National Security Agency's searches of a database containing the phone records of nearly all Americans violated privacy protections for three years by failing to meet a courtordered standard, according to court documents released – Wall Street Journal, Sept. 10, 2013
 [http://online.wsj.com/article/SB1000142412788732409470457906742 2990999360.html]

### NSA unlawfully collected tens of thousands of U.S. emails

◆ - Ledger-Enquirer, 8/22/13.



## Intelligence Oversight and Accountability Act of 2013, H.R. 3103

 requires that any Foreign Intelligence Surveillance Court (FISC) decision, order or opinion that includes a denial of an IC (Intelligence Community) request, a modification of an IC request, or results in a change to any legal interpretation of the Foreign Intelligence Surveillance Act (FISA) be shared with Congress.



## **Computer Fraud and Abuse Act** (CFAA) – 1986...

 "Whoever...intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains— ...information from any protected computer "

- Andrew Auernheimer ["Weev"] —serving a 41month sentence in federal prison. He discovered & disclosed that AT&T's website published iPad users' email addresses when someone entered a URL that included an iPad's unique identification number.
- Aaron Swartz, was charged last year for allegedly breaching hacking laws by downloading millions of academic articles from the JSTOR subscription database through an open connection at MIT. [spoofed email and MAC addresses]
- Pandora, Washington Post, Starbucks



# "You have zero privacy anyway. Get over it." (Scott McNealy, CEO, Sun Microsystems, 1999)

**Columbus State University** 

## Privacy? Security?

### ◆ <u>TowerCam</u>

### Port Columbus

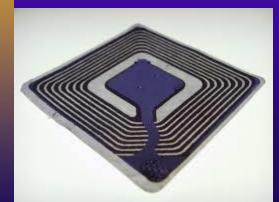
- Traffic Cameras (Atlanta)
  - <u>http://www.trafficland.com/city/ATL/</u>
  - <u>http://www.511ga.org/</u>
- Big Brother?
  - 6 million CCTV cameras in UK (10.July.2013)
  - Operation Shield will link 10,000 camera in Atlanta

 3D facial recognition airport security technology at Sochi 2014





- "Loyalty / Rewards Cards"
- Peach Pass
- proximity (prox) card : MARTA -> purchases
- Electronic Passport
- Amazon Recommendations





## Social Media

- Facebook.com <u>1.15 billion active users</u>
- ◆ Youtube 1 billion users (4 billion views)
- Twitter.com <u>500 million users</u>
- LinkedIn.com 238 million professionals worldwide
- ◆ QQ 825 million users in China
- ♦ Weibo 500 million
- <u>Statistics Show Social Media Is Bigger Than You</u> <u>Think</u>
- ♦ Social media list

9/19/2013

Columbus State University

## Who is Wayne Summers?

Google.com



- <u>http://csc.columbusstate.edu/summers/</u> (resume)
- Linked.com, Facebook
- Math geneology, Google Scholars
- <u>Blogger.com</u>, Naymz.com, classmates.com
- whitepages.com
  - Age, Cities, parents, spouse, and children's names & ages
- zillow.com

## peoplefinders.com

- Comprehensive Background Report
  - Name: SUMMERS, WAYNE
  - Everything you need to know, all in one report.
    - Aliases & Maiden Names
    - Birth Date
    - Address History
    - Phone Numbers
    - Marriages & Divorces
    - Relatives & neighbors
    - Property ownership
    - and much more...

### \$39.95

Click below to find out how to get this product for FREE.

# **Future Privacy Issues**

- ♦ <u>Minority Report Mall Scene</u> (63 sec)
- Advertising of the future



- Ubiquitous use of phone
- Fingerprints and phone instead of credit cards
- "expanding your purchases" marketing
- ♦ <u>A Day Made of Glass</u>

## Mediacom Online home watch



#### HOME WATCH Lets you turn your mobile phone Into a window to your home









STAY CONNECTED TO WHAT'S IMPORTANT TO YOU, FROM ANYWHERE. ANYTIME. USING A WEB-ENABLED PHONE OR PC! VIEW LIVE VIDEO • CONTROL LIGHTING • MONITOR TEMPERATURE • RECEIVE ALERTS & STATUS REPORTS FROM SENSORS IN YOUR HOME • AND MUCH MORE!



# "Privacy is the future. Get used to it."

(Marc Rotenberg, Director, Electronic Privacy Information Centre - EPIC) (Fortune, 2001).



### Pew Research Center Survey (9/5/13)

- clearing cookies?
- encrypting email?
- taken steps to avoid observation by specific people, organizations, or the government?
- had an email or social networking account compromised or taken over by someone else without permission?
- have been stalked or harassed online?
- had important personal information stolen such as their Social Security Number, credit card, or bank account information?
- have been the victim of an online scam and lost money?
- have had their reputation damaged because of something that happened online?
- have been led into physical danger because of something that happened online?

#### Pew Research Center Survey (9/5/13)

- 86% of internet users have taken steps online to remove or mask their digital footprints—ranging from clearing cookies to encrypting their email.
- **55%** of internet users have taken steps to avoid observation by specific people, organizations, or the government.
- 21% of internet users have had an email or social networking account compromised or taken over by someone else without permission.
- ◆ 12% have been stalked or harassed online.
- **11%** have had important personal information stolen such as their Social Security Number, credit card, or bank account information.
- ◆ 6% have been the victim of an online scam and lost money.
- 6% have had their reputation damaged because of something that happened online.
- 4% have been led into physical danger because of something that happened online.

# **Information you provide**

 Browsing History: Visited pages, Download List, Form and Search Bar entries, Passwords, Cached Web Content, Cookies
 (CSU Athletics has 44 Cookies)

- Internet service provider, employer, or the sites themselves can track pages you visit.
- IP (network) address & Cookies (used by companies to block / limit access)
- MAC (physical) address (used by wireless hotspots)

# Safe Guards

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### ♦ E-mail

- should be considered like a postcard
- Don't transmit personal data unless it is encrypted
- Social networks (Facebook, Twitter, ...) are open to others
  - Don't post personal data that could be used for identification
  - Don't post anything you would be ashamed of

9/19/2013

### **Eight tips to protect your e-mail account**

- Christian Science Monitor
- Strong passwords
- Use your own bookmarks
- Two-step verification (code that arrives on your phone. )
- Watch for suspicious settings
- Watch the web addresses
- Avoid public machines and networks
- Use two e-mail accounts: One secured, one loose
- Use security software

# **Privacy Policies**

#### ◆ <u>Google</u>

**Sample clause:** "When you sign up for a Google Account or other Google service or promotion that requires registration, we ask you for personal information (such as your name, email address and an account password). For certain services, such as our advertising programs, we also request credit card or other payment account information which we maintain in encrypted form on secure servers. We may combine the information you submit under your account with information from other Google services or third parties in order to provide you with a better experience and to improve the quality of our services. For certain services, we may give you the opportunity to opt out of combining such information."

#### ♦ <u>Yahoo</u>

**Sample clause:** "Yahoo! collects personal information when you register with Yahoo!, when you use Yahoo! products or services, when you visit Yahoo! pages or the pages of certain Yahoo! partners, and when you enter promotions or sweepstakes. Yahoo! may combine information about you that we have with information we obtain from business partners or other companies."

#### ♦ <u>Microsoft</u>

**Sample clause:** "Microsoft collects and uses your personal information to operate and improve its sites and deliver the services or carry out the transactions you have requested. These uses may include providing you with more effective customer service; making the sites or services easier to use by eliminating the need for you to repeatedly enter the same information; performing research and analysis aimed at improving our products, services and technologies; and displaying content and advertising that are customized to your interests and preferences."



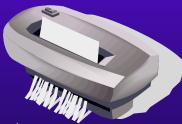
# What Else Can You Do?

• Do not give your personal information out over the phone or Internet.

• Take all outgoing mail to a U.S. Postal Service mail box.

• Use a P.O. Box for all incoming mail.

• Buy a document/credit card/CD crosscut shredder.



# **Technology** Solutions

- Adjust browser settings
- Block tracking
- Virtual Private Network (VPN) private tunnels for users to route their Internet traffic.
- Tor network of virtual tunnels chosen randomly.
- Use encypted email (pgp)
- Encrypt your hard drives

Five ways to protect yourself from government surveillance – Christian Science Monitor

- If you want privacy, take the battery out
- Keep it off the cloud
- Encryption
- Consider HTTPS [<u>HTTPS Everywhere</u>]
- Use **Tor**

https://www.eff.org/pages/tor-and-https

#### Brave New World

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 "FBI Admits It Controlled Tor Servers Behind Mass Malware Attack"

## 

## Commentary: Froma Harrrop (LE 9/15)

• "Online privacy is gone. Live with it"

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- Admit that we are powerless to stop this new technology
- Stop confusing capabilities with actions
- Recognize that this surveillance is key to national security
- Appreciate that we do have safeguards
- Admit that commercial spying is a privacy matter, as well
- Call out media sources hurling thunderbolts at NSA spying while spying on you
- Distinguish between a "who" and an "it"

9/19/2013

# **U.S.** Constitution & Privacy

◆ Justice Brandeis's dissent in Olmstead v. U. S. (1928):

"The makers of our Constitution understood the need to secure conditions favorable to the pursuit of happiness, and the protections guaranteed by this are much broader in scope, and include the right to life and an inviolate personality -- the right to be left alone -- the most comprehensive of rights and the right most valued by civilized men. The principle underlying the Fourth and Fifth Amendments is protection against invasions of the sanctities of a man's home and privacies of life. This is a recognition of the significance of man's spiritual nature, his feelings, and his intellect."

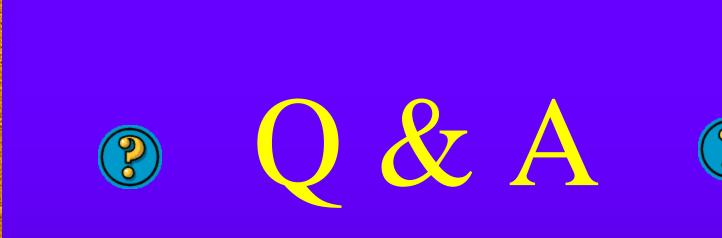
### President Barack Obama

• "But I think it's important to recognize that you can't have a hundred percent security and also then have a hundred percent privacy and zero inconvenience. You know, we're going to have to make some choices as a society."

[Transcript provided by Federal News Service (<u>www.fednews.com</u>), June 7, 2013



#### 9/19/2013



Dr. Wayne Summers TSYS School of Computer Science Columbus State University <u>wsummers@columbusstate.edu</u> <u>http://csc.columbusstate.edu/summers</u>

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- "FISC judge orders review of secret court rulings on NSA phone surveillance," Christian Science Monitor, by <u>Warren Richey</u>, September 13, 2013
- "FBI Admits It Controlled Tor Servers Behind Mass Malware Attack," Wired Magazine, by Kevin Poulsen 09.13.13
- "NSA repeatedly ignored court surveillance rules, documents show," Christian Science Monitor, by Mark Clayton, September 11, 2013
- **"Apple's Fingerprint ID May Mean You Can't 'Take the Fifth'" Wired.com by Marcia Hofmann, 09.12.13 [difference between things we have or are and things we know.]**
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