



Cloud Computing and Social Media

Ronald Chichester, Esq.
Essentials of Business Law
March 27, 2014

Overview



Overview

- Cloud Computing



Overview

- Cloud Computing
- New Security Issues



Overview

- Cloud Computing
- New Security Issues
- Social Media





CLOUD COMPUTING

Types of Cloud Services

Virtual Application



Virtual System of Applications



Virtual Server



Beware



Cloud Security



Cloud Security



All Relationships End





NEW SECURITY ISSUES

You're Being Tracked



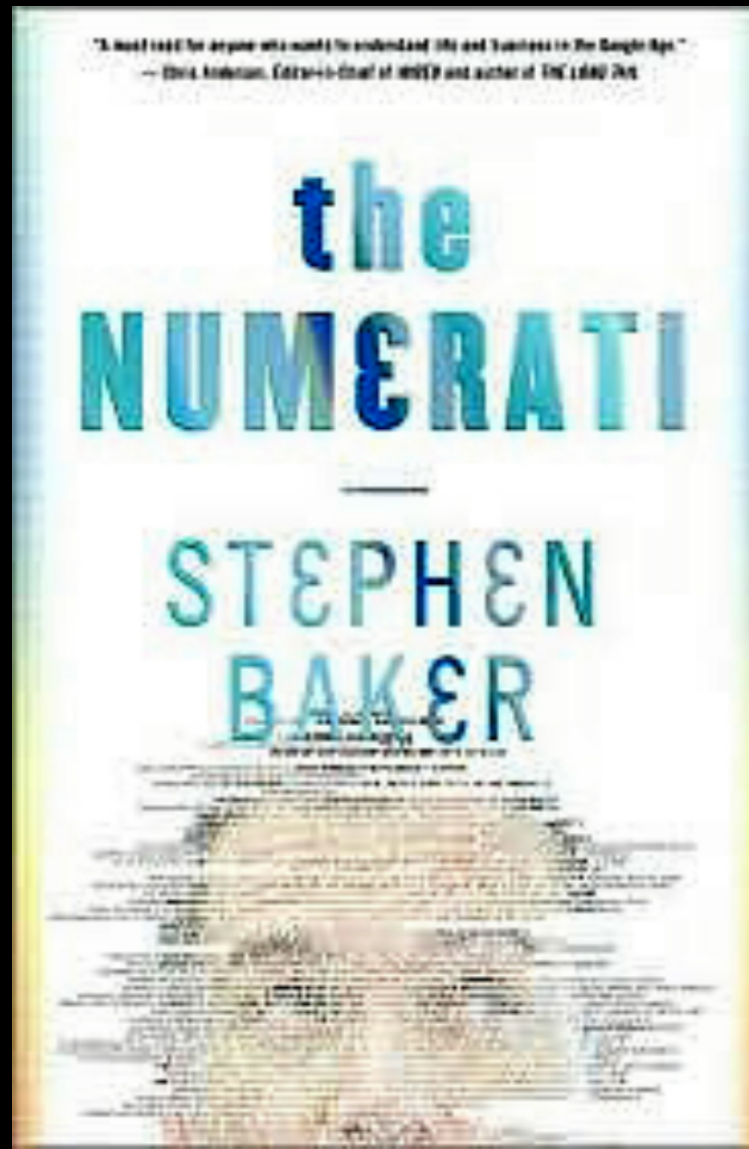
You're Being Tracked



Always!

By Whom?

By Whom?



By Whom?



By Whom?



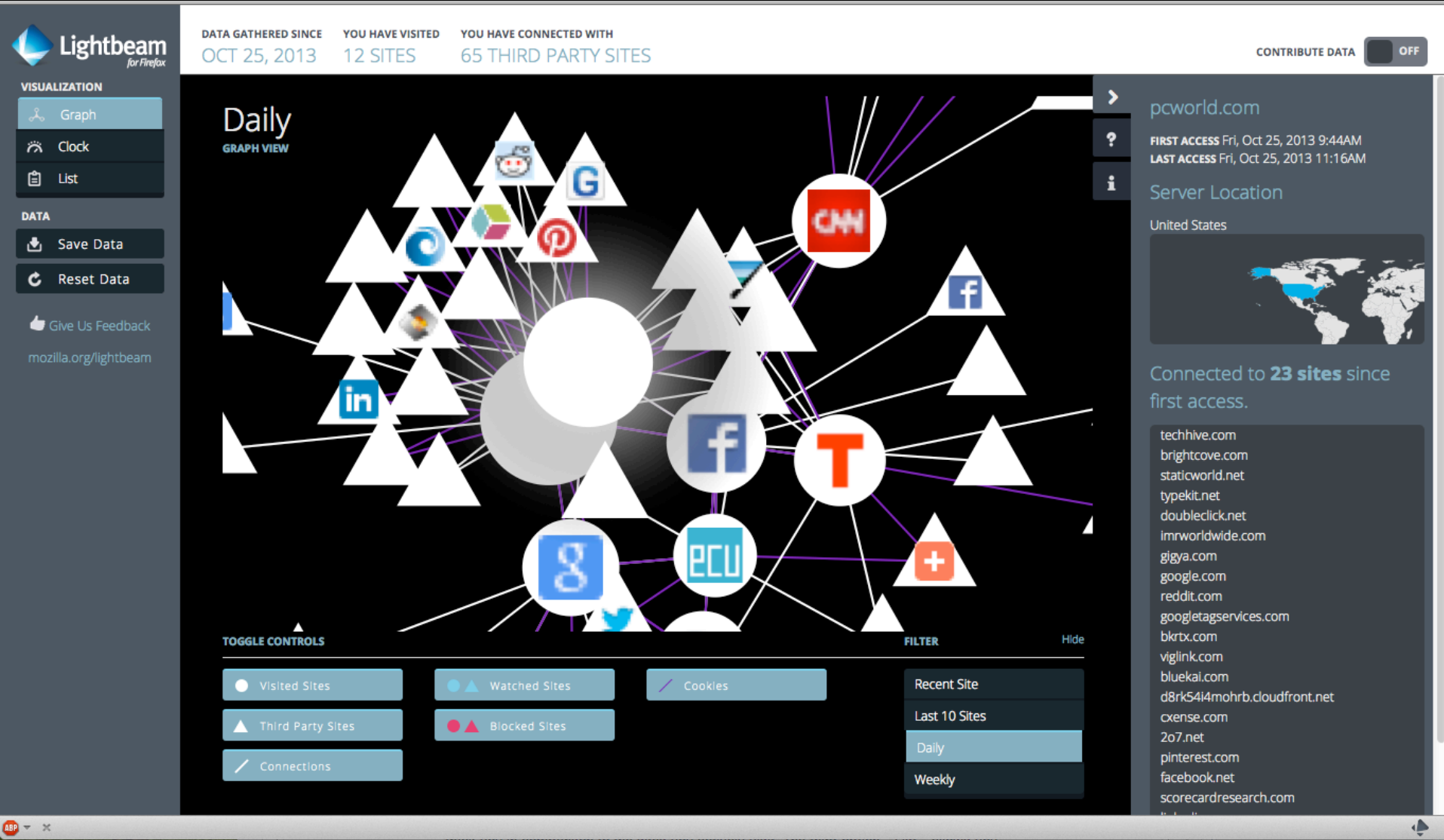
What to do?



Cookies and DNS



Cookies



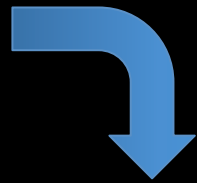
Domain Name System (“DNS”)

Domain Name System (“DNS”)

google.com

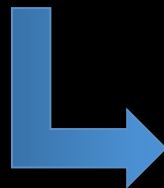
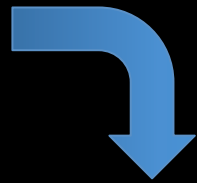
Domain Name System (“DNS”)

google.com



Domain Name System (“DNS”)

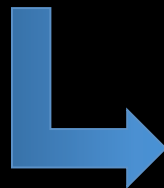
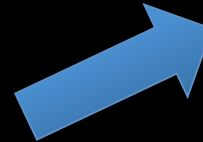
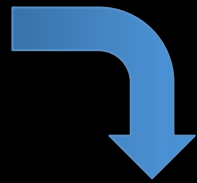
google.com



74.125.227.199

Domain Name System (“DNS”)

google.com



74.125.227.199

Use Multiple Browsers



“Harden” at least one browser

“Harden” at least one browser



ADD-ONS

[EXTENSIONS](#) | [THEMES](#) | [COLLECTIONS](#) | [MORE...](#)

Welcome to Firefox Add-ons. Choose from thousands of extra features and styles to make Firefox your own.

[Home](#) » [Extensions](#) » Ghostery



Ghostery 5.1.2

by [Felix Shnir](#), [José María Signanini](#)

Protect your privacy. See who's tracking your web browsing and block them with Ghostery.

[+ Add to Firefox](#) [Privacy Policy](#)

FEATURED

“Harden” at least one browser

[Register](#) or [Log in](#)

[Other Applications](#)



ADD-ONS

[EXTENSIONS](#) | [THEMES](#) | [COLLECTIONS](#) | [MORE...](#)



search for

Welcome to Firefox Add-ons. Choose from thousands of extra features and styles to make Firefox your own.

[Home](#) » [Extensions](#) » [Google/Yandex search link fix](#)



Google/Yandex search link fix 1.4.1

by [Wladimir Palant](#)

NO RESTART

This extension prevents Google Search from modifying result links when they are clicked.

[+ Add to Firefox](#)

FEATURED

“Harden” at least one browser



The screenshot shows the Firefox Add-ons interface. At the top left is the Firefox logo and the word "ADD-ONS" in large bold letters. Below it are links for "EXTENSIONS", "THEMES", "COLLECTIONS", and "MORE...". On the top right is a search bar with a magnifying glass icon and the text "search for". A yellow banner below the header says "Welcome to Firefox Add-ons. Choose from thousands of extra features and styles to make Firefox your own." Below the banner is a breadcrumb trail: "Home » Extensions » Disconnect". The main content area features the "Disconnect" extension. It has a large "D." icon, the title "Disconnect 3.11.0" in italics, and the text "by Disconnect". A green diagonal banner in the top right corner of the extension card says "FEATURED". Below the title is the description "Make the web faster, more private, and more secure." At the bottom of the card are two buttons: a green button with a plus sign and the text "Add to Firefox", and a blue link for "Privacy Policy".

ADD-ONS
EXTENSIONS | THEMES | COLLECTIONS | MORE...

search for

Welcome to Firefox Add-ons. Choose from thousands of extra features and styles to make Firefox your own.

Home » Extensions » Disconnect

D. *Disconnect 3.11.0*
by Disconnect

Make the web faster, more private, and more secure.

+ Add to Firefox Privacy Policy

FEATURED

“Harden” at least one browser



ADD-ONS

[EXTENSIONS](#) | [THEMES](#) | [COLLECTIONS](#) | [MORE...](#)

 search for

Welcome to Firefox Add-ons. Choose from thousands of extra features and styles to make Firefox your own.

[Home](#) » [Extensions](#) » [Lightbeam for Firefox](#)



Lightbeam for Firefox 1.0.8

by [Mozilla](#)

NO RESTART

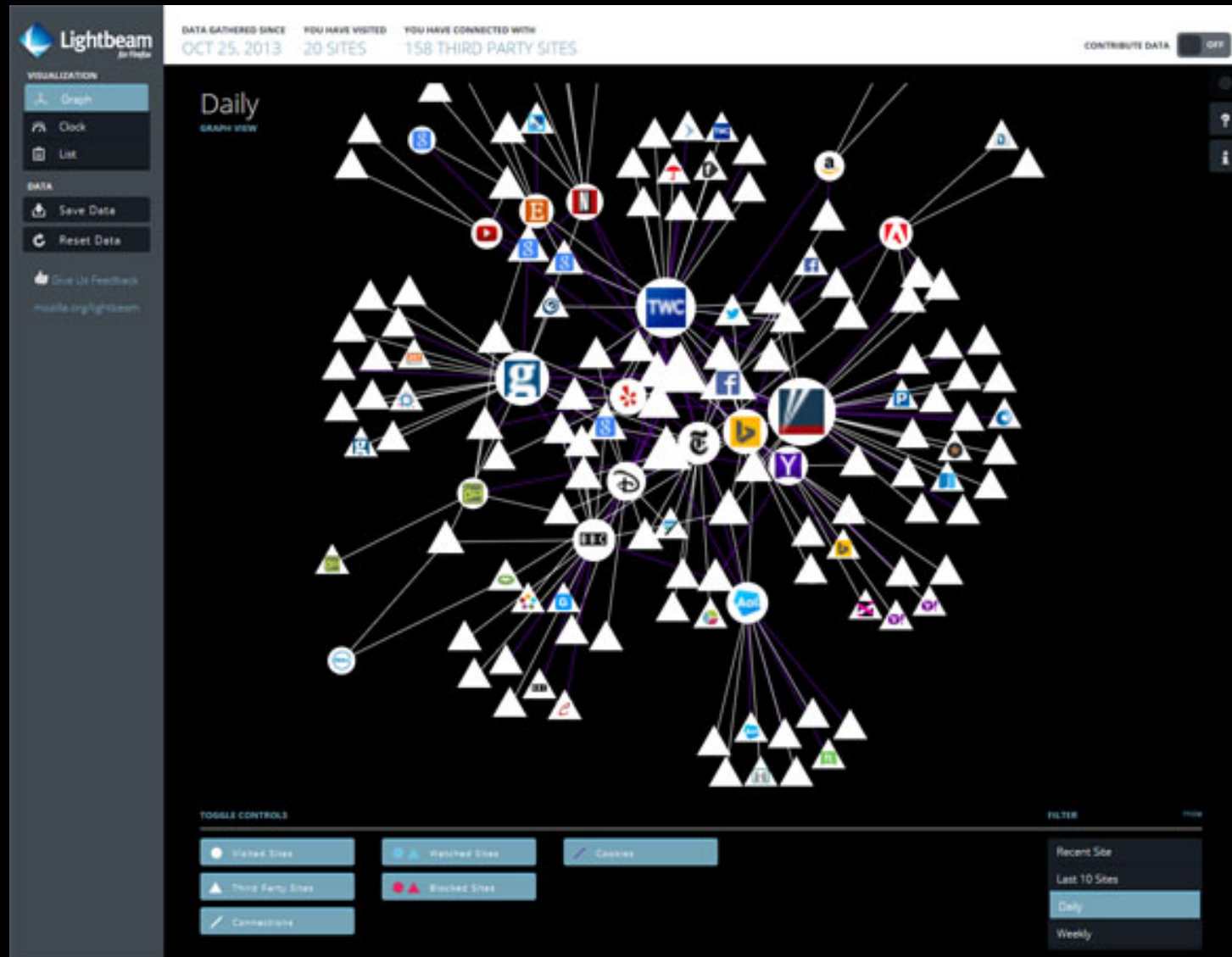
FEATURED

Lightbeam is a Firefox add-on that enables you to see the first and third party sites you interact with on the Web. Using interactive visualizations, Lightbeam shows you the relationships between these third parties and the sites you visit.

[+ Add to Firefox](#)

[Privacy Policy](#)

“Harden” at least one browser



“Harden” at least one browser

The screenshot shows a Firefox browser window with the Lightbeam extension active. The address bar displays the URL `resource://jid1-f9uj2thwoam5gq-at-jetpack/lightbeam/data/index.html`. The search bar contains the text "harden". The browser's toolbar includes various icons for extensions and browser functions.

The Lightbeam interface is visible, featuring a sidebar on the left with the following sections:

- Lightbeam for Firefox**
- VISUALIZATION**
 - Graph
 - Clock
 - List
- DATA**
 - Save Data
 - Reset Data
 - Give Us Feedback
 - mozilla.org/lightbeam

The main content area displays the following statistics:

- DATA GATHERED SINCE: MAR 6, 2014
- YOU HAVE VISITED: 6 SITES
- YOU HAVE CONNECTED WITH: 119 THIRD PARTY SITES

A "CONTRIBUTE DATA" button with a toggle switch set to "OFF" is located in the top right corner.

At the bottom, the "SITE PREFERENCES" section is visible, showing a list of sites with options to "Block Site", "Hide Site", "Watch Site", or "Clear Preference". A "Hide Hidden Sites" button is also present.

Compartmentalize



Keep Applications Separated



Firm Website



robot.txt File



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The Free Encyclopedia

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[Contact page](#)

► [Tools](#)

Article [Talk](#)

Robots exclusion standard

From Wikipedia, the free encyclopedia

"Robots.txt" redirects here. For Wikipedia's robots.txt file, see [MediaWiki:Robotstxt](#).



This article **contains instructions, advice, or help** [improve this article](#) either by rewriting the h

The **Robot Exclusion Standard**, also known as the **Robots Exclusion Protocol**, is a standard about accessing all or part of a [website](#) which is otherwise publicly viewable. Robots.txt is a proofread source code. The standard is different from, but can be used in conjun

Contents [\[hide\]](#)

- [1 History](#)
- [2 About the standard](#)
- [3 Disadvantages](#)
- [4 Alternatives](#)
- [5 Examples](#)
- [6 Nonstandard extensions](#)

Firm Websites



Why?

Anatomy of a Hack

Anatomy of a Hack

Firefox File Edit View History Bookmarks Tools

Domain Dossier – Investigate dom

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centralops.net/co/DomainDossier.aspx?dom_dns=true

Domain Dossier Investigate domains and IP addresses

domain or IP address

☒ domain whois record ☒ DNS records ☒ traceroute

☒ network whois record ☒ service scan

user: anonymous [50.79.250.209]
balance: 50 units
[log in](#) | [account info](#)

CentralOps.net

-- end --
[URL for this output](#) | [return to CentralOps.net](#), a service of [Hexillion](#)

Anatomy of a Hack

The screenshot shows a Firefox browser window with the address bar displaying `centralops.net/co/DomainDossier.aspx?dom_dns=true`. The page title is "Domain Dossier - Investigate domains and IP addresses". The main heading is "Domain Dossier" with the subtitle "Investigate domains and IP addresses". A search input field labeled "domain or IP address" contains the text "bakerbotts.com", which is highlighted with a red oval. Below the search field, there are several checkboxes, all of which are checked: "domain whois record", "DNS records", "traceroute", "network whois record", and "service scan". A "go" button is located to the right of these checkboxes. At the bottom of the page, it shows the user is "anonymous [50.79.250.209]" with a "balance: 50 units". There are links for "log in" and "account info". The CentralOps.net logo is visible in the bottom right corner. At the very bottom, there is a footer with "-- end --" and a URL for the output: "URL for this output | return to CentralOps.net, a service of Hexillion".

Firefox File Edit View History Bookmarks Tools

Domain Dossier - Investigate domains and IP addresses

Legislati... Office o... Texas L... [RELEAS... Categor

centralops.net/co/DomainDossier.aspx?dom_dns=true

Domain Dossier Investigate domains and IP addresses

domain or IP address **bakerbotts.com**

☒ domain whois record ☒ DNS records ☒ traceroute

☒ network whois record ☒ service scan

user: anonymous [50.79.250.209]
balance: 50 units
[log in](#) | [account info](#)

CentralOps.net

-- end --
URL for this output | [return to CentralOps.net](#), a service of Hexillion

Anatomy of a Hack

Address lookup

canonical name **bakerbotts.com.**

aliases

addresses **167.68.12.5**

Domain Whois record

Queried **whois.internic.net** with "**dom bakerbotts.com**"...

```
Domain Name: BAKERBOTTTS.COM
Registrar: NETWORK SOLUTIONS, LLC.
Whois Server: whois.networksolutions.com
Referral URL: http://www.networksolutions.com/en_US/
Name Server: ALNDNS01.BAKERBOTTTS.COM
Name Server: EAGDNS01.BAKERBOTTTS.COM
Name Server: EAGDNS02.BAKERBOTTTS.COM
Status: clientTransferProhibited
Updated Date: 28-feb-2013
Creation Date: 28-apr-1995
Expiration Date: 29-apr-2015
```

>>> Last update of whois database: Thu, 06 Mar 2014 15:58:35 UTC <<<

Anatomy of a Hack

Address lookup

canonical name **bakerbotts.com.**

aliases

addresses **167.68.12.5**

Domain Whois record

Queried **whois.internic.net** with "**dom bakerbotts.com**"...

```
Domain Name: BAKERBOTTTS.COM
Registrar: NETWORK SOLUTIONS, LLC.
Whois Server: whois.networksolutions.com
Referral URL: http://www.networksolutions.com/en_US/
Name Server: ALNDNS01.BAKERBOTTTS.COM
Name Server: EAGDNS01.BAKERBOTTTS.COM
Name Server: EAGDNS02.BAKERBOTTTS.COM
Status: clientTransferProhibited
Updated Date: 28-feb-2013
Creation Date: 28-apr-1995
Expiration Date: 29-apr-2015
```

>>> Last update of whois database: Thu, 06 Mar 2014 15:58:35 UTC <<<

Anatomy of a Hack

bakerbotts.com	IN	NS	eagdns01.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	NS	eagdns02.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	NS	alndns01.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	A	167.68.12.5	86400s (1.00:00:00)
bakerbotts.com	IN	MX	preference: 50	86400s (1.00:00:00)
			exchange: emrsmta.messageone.com	
bakerbotts.com	IN	MX	preference: 10	86400s (1.00:00:00)
			exchange: bbmx00.bakerbotts.com	
bakerbotts.com	IN	MX	preference: 20	86400s (1.00:00:00)
			exchange: bbmx01.bakerbotts.com	
bakerbotts.com	IN	TXT	v=spf1 +mx ip4:204.194.96.0/21 ip4:63.241.249.0/25 ~all	86400s (1.00:00:00)

Anatomy of a Hack

bakerbotts.com	IN	NS	eagdns01.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	NS	eagdns02.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	NS	alndns01.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	A	167.68.12.5	86400s (1.00:00:00)
bakerbotts.com	IN	MX	preference: 50 exchange: emrsmta.messageone.com	86400s (1.00:00:00)
bakerbotts.com	IN	MX	preference: 10 exchange: bbmx00.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	MX	preference: 20 exchange: bbmx01.bakerbotts.com	86400s (1.00:00:00)
bakerbotts.com	IN	TXT	v=spf1 +mx ip4:204.194.96.0/21 ip4:63.241.249.0/25 ~all	86400s (1.00:00:00)

Anatomy of a Hack

Service scan

FTP - 21	Error: TimedOut
SMTP - 25	Error: TimedOut
HTTP - 80	HTTP/1.1 301 Moved Permanently Content-Length: 149 Content-Type: text/html; charset=UTF-8 Location: http://www.bakerbotts.com/ Server: Microsoft-IIS/7.5 x-geoloc: 05 x-client: 000003 x-apptype: 01 x-prodtype: 01 x-public: 1 x-redirect: 1 x-occurrence: 01 x-server: EG-H1UT-A02 Date: Thu, 06 Mar 2014 15:59:31 GMT Connection: close
POP3 - 110	Error: TimedOut
IMAP - 143	Error: TimedOut

Anatomy of a Hack

Service scan

FTP - 21	Error: TimedOut
SMTP - 25	Error: TimedOut
HTTP - 80	<pre>HTTP/1.1 301 Moved Permanently Content-Length: 149 Content-Type: text/html; charset=UTF-8 Location: http://www.bakerbotts.com/ Server: Microsoft-IIS/7.5 x-geoloc: 05 x-client: 000003 x-apptype: 01 x-prodtype: 01 x-public: 1 x-redirect: 1 x-occurrence: 01 x-server: EG-H1UT-A02 Date: Thu, 06 Mar 2014 15:59:31 GMT Connection: close</pre>
POP3 - 110	Error: TimedOut
IMAP - 143	Error: TimedOut

Anatomy of a Hack



Anatomy of a Hack



Point...

Anatomy of a Hack



Point...

Click...

Anatomy of a Hack



Point...

Click...

Exploit!

Anatomy of a Hack

```
MSFConsole

      888      888      d8b888
      888      888      Y8P888
      888      888      888
888888b.d88b. .d88b. 888888 8888b. .d8888b 88888b. 888 .d88b. 8888888888
888 "888 "88bd8P Y8b888 "88b88K 888 "88b888d88""88b8888888
888 888 888888888888888 .d888888"Y8888b.888 8888888888 8888888888
888 888 888Y8b. Y88b. 888 888 X88888 d88P888Y88. .88P888Y88b.
888 888 888 "Y8888 "Y888"Y888888 88888P'88888P" 888 "Y88P" 888 "Y888
      888
      888
      888

+ -- --[ nsfconsole v2.4 [100 exploits - 75 payloads]
msf > show exploits
Metasploit Framework Loaded Exploits
=====

3com_3cdaemon_ftp_overflow    3Com 3CDAemon FTP Server Overflow
Credits                      Metasploit Framework Credits
afp_loginext                 AppleFileServer LoginExt PathName Overflow
ain_goaway                  AOL Instant Messenger goaway Overflow
alt_n_webadmin              Alt-N WebAdmin USER Buffer Overflow
apache_chunked_win32        Apache Win32 Chunked Encoding
arkeia_agent_access         Arkeia Backup Client Remote Access
arkeia_type77_macos         Arkeia Backup Client Type 77 Overflow (Mac OS X)
>
arkeia_type77_win32         Arkeia Backup Client Type 77 Overflow (Win32)
awstats_configdir_exec     AWStats configdir Remote Command Execution
backupexec_agent           Veritas Backup Exec Windows Remote Agent Overfl
ou
backupexec_dump            Veritas Backup Exec Windows Remote File Access
backupexec_ns              Veritas Backup Exec Name Service Overflow
backupexec_registry        Veritas Backup Exec Server Registry Access
badblue_ext_overflow       BadBlue 2.5 EXT.dll Buffer Overflow
bakbone_netvault_heap      BakBone NetVault Remote Heap Overflow
barracuda_img_exec         Barracuda IMG.PL Remote Command Execution
blackice_pam_icq           ISS PAM.dll ICQ Parser Buffer Overflow
cabrightstor_disco         CA BrightStor Discovery Service Overflow
cabrightstor_disco_servicepc CA BrightStor Discovery Service SERVICEPC Overf
low
cabrightstor_sqlagent      CA BrightStor Agent for Microsoft SQL Overflow
cabrightstor_uniagent      CA BrightStor Universal Agent Overflow
cacti_graphimage_exec      Cacti graph_image.php Remote Command Execution
calicclnt_getconfig        CA License Client GETCONFIG Overflow
calicserv_getconfig        CA License Server GETCONFIG Overflow
distcc_exec                DistCC Daemon Command Execution
edirectory_inonitor        eDirectory 8.7.3 iMonitor Remote Stack Overflow

exchange2000_xexch50       Exchange 2000 MS03-46 Heap Overflow
msf > _
```



Google



www.google.com



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Theres no trick to being a humorist when you have the whole government working for you.



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Challenges

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Google Hacking Codes

Published by: [Jimmy_Riddle](#), on 2008-10-07 08:28:10

Google Hacking

Application security vendor Fortify reported in 2006 that 20 percent to 30 percent of the attacks it recorded as part of a six-month study came as a result of some form of search engine hacking.

Google is not particularly enamored by the efforts of some of its users to use its index for malicious gain.

"As part of Google's efforts to index all of the information online we find that on occasion malicious executable files become available to users through Google Web search," Megan Quinn, a Google spokeswoman, told internetnews.com. "We deplore these malicious efforts to violate our users' security.

"When possible, we endeavor to shield our users from these executable files," Quinn added. "However we always encourage users to keep their security software up-to-date to ensure the safest Web surfing experience."

But what kind of Codes are available I hear you all ask;

Well here's just a few of them I've found out about. . .

Interesting Searches...

* Source <http://www.i-hacked.com/content/view/23/42/>

* intitle:"Index of" passwords modified

Anatomy of a Hack



Anatomy of a Hack

```
LIB FLAME PROPS_LOADED__ = true

flame_props = {}
flame_props FLAME_ID_CONFIG_KEY = "MANAGER.FLAME_ID"
flame_props FLAME_TIME_CONFIG_KEY = "TIMER.NUM_OF_SEC
flame_props FLAME_LOG_PERCENTAGE = "LEAK.LOG_PERCENTA
flame_props FLAME_VERSION_CONFIG_KEY = "MANAGER.FLAME
flame_props SUCCESSFUL_INTERNET_TIMES_CONFIG = "GATOR
flame_props INTERNET_CHECK_KEY = "CONNECTION_TIME"
flame_props BPS_CONFIG = "GATOR.LEAK.BANDWIDTH_CALCUL
flame_props BPS_KEY = "BPS"
flame_props PROXY_SERVER_KEY = "GATOR.PROXY_DATA.PRO
flame_props getFlameId = function()
flame_props if config.hasKey(flame_props.FLAME_ID_CONFIG_KEY)
    local l_1_0 = config.get
    local l_1_1 = flame_props.FLAME_ID_CONFIG_KEY
    return l_1_0(l_1_1)
```

Anatomy of a Hack

Point...

Anatomy of a Hack

Point...

```
Address lookup
canonical name bakerbotts.com.
aliases
addresses 167.68.12.5

Domain Whois record
Queried whois.internic.net with "dom bakerbotts.com"...

Domain Name: BAKERBOTT.COM
Registrar: NETWORK SOLUTIONS, LLC.
Whois Server: whois.networksolutions.com
Referral URL: http://www.networksolutions.com/en_US/
Name Server: A2DNS01.BAKERBOTT.COM
Name Server: EAGDNS01.BAKERBOTT.COM
Name Server: EAGDNS02.BAKERBOTT.COM
Status: clientTransferProhibited
Updated Date: 28-feb-2013
Creation Date: 28-apr-1995
Expiration Date: 29-apr-2015

>>> Last update of whois database: Thu, 06 Mar 2014 15:58:35 UTC <<<
```

Anatomy of a Hack

Point... 167.68.12.5

Click...

Anatomy of a Hack

Point...

167.68.12.5

Click...

```
Service scan
FTP - 21      Error: TimedOut
SMTP - 25     Error: TimedOut
HTTP - 80     HTTP/1.1 301 Moved Permanently
               Content-Length: 149
               Content-Type: text/html; charset=UTF-8
               Location: http://www.bakerbotts.com/
               Server: Microsoft-IIS/7.5
               x-geoloc: 05
               x-client: 000003
               x-apptype: 01
               x-prodtype: 01
               x-public: 1
               x-redirect: 1
               x-occurrence: 01
               x-server: EG-H1UT-A02
               Date: Thu, 06 Mar 2014 15:59:31 GMT
               Connection: close
POP3 - 110    Error: TimedOut
IMAP - 143    Error: TimedOut
```

Anatomy of a Hack

Point... 167.68.12.5

Click... Microsoft-IIS/7.5

Anatomy of a Hack

Point...

167.68.12.5

Click...

Microsoft-IIS/7.5

Exploit!

```
LIB FLAME_PROPS_LOADED__ = true
flame_props = {}
flame_props.FLAME_ID_CONFIG_KEY = "MANAGER.FLAME_ID"
flame_props.FLAME_TIME_CONFIG_KEY = "TIMER.NUM_OF_SEC"
flame_props.FLAME_LOG_PERCENTAGE = "LEAK.LOG_PERCENTAGE"
flame_props.FLAME_VERSION_CONFIG_KEY = "MANAGER.FLAME"
flame_props.SUCCESSFUL_INTERNET_TIMES_CONFIG = "GATOR"
flame_props.INTERNET_CHECK_KEY = "CONNECTION_TIME"
flame_props.BPS_CONFIG = "GATOR.LEAK.BANDWIDTH_CALCUL"
flame_props.BPS_KEY = "BPS"
flame_props.PROXY_SERVER_KEY = "GATOR.PROXY_DATA.PRO"
flame_props.getFlameId = function()
  if config.hasKey(flame_props.FLAME_ID_CONFIG_KEY)
    local l_1_0 = config.get
    local l_1_1 = flame_props.FLAME_ID_CONFIG_KEY
    return l_1_0(l_1_1)
```

Anatomy of a Hack

Point... 167.68.12.5

Click... Microsoft-IIS/7.5

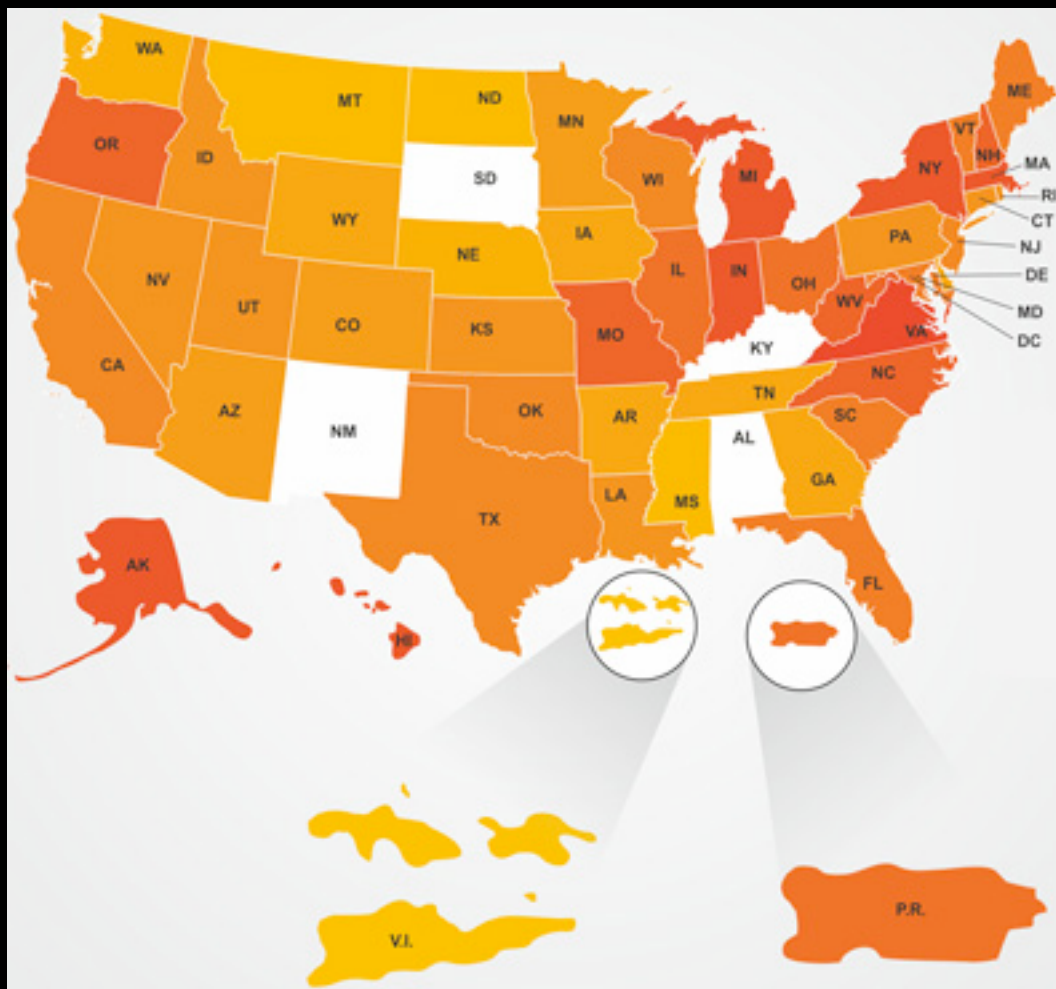
Exploit! Botnet!

What to do?

Use Encryption!



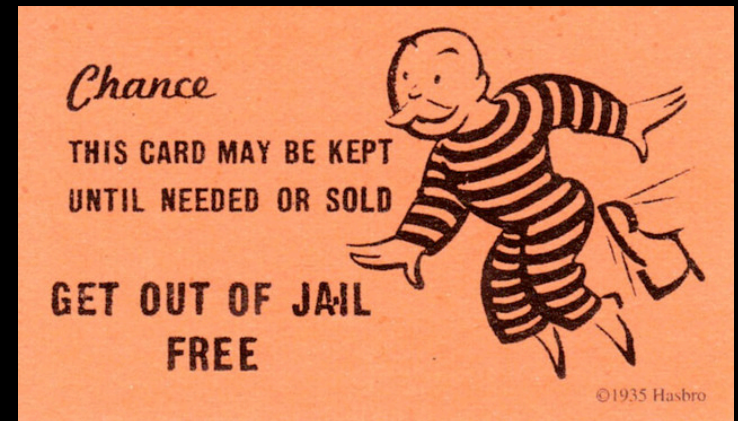
Use Encryption!



Encryption



=



©1935 Hasbro

Find the Weakest Link



Use Choke Points



Defense Requires Depth



Fail in a Safe Manner



IMG_2582.JPG



IMG_2599.JPG



IMG_2607.JPG



IMG_2660.JPG



IMG_2671.JPG



IMG_2672.JPG

Friend and Foe



Simplicity



Do Your Bit



Trust, but Verify



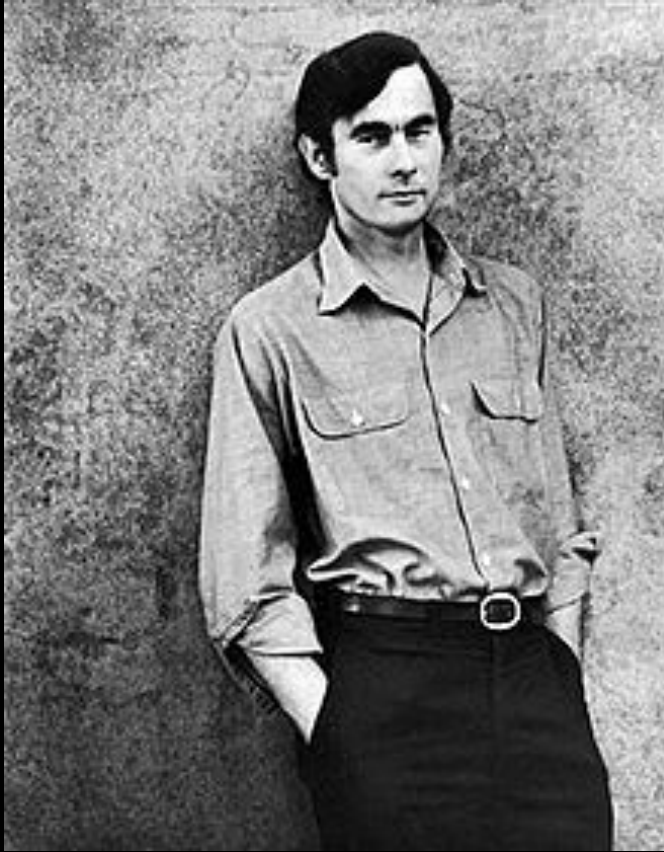
Question Authority



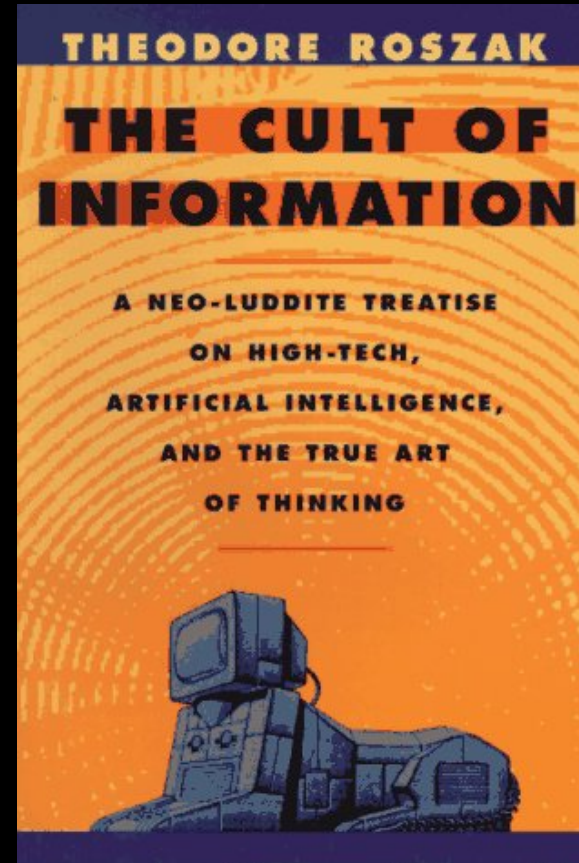
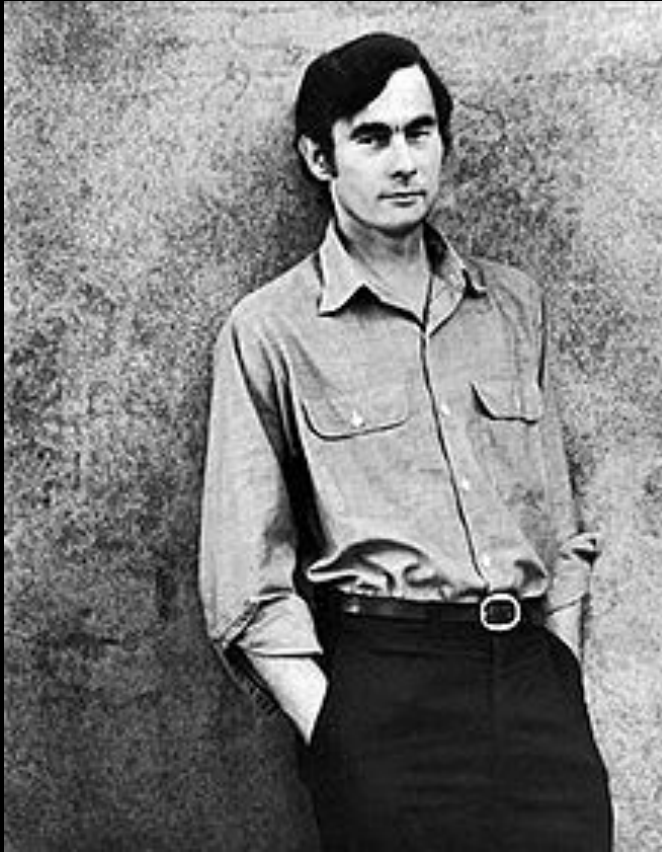


SOCIAL MEDIA

Theodore Roszak

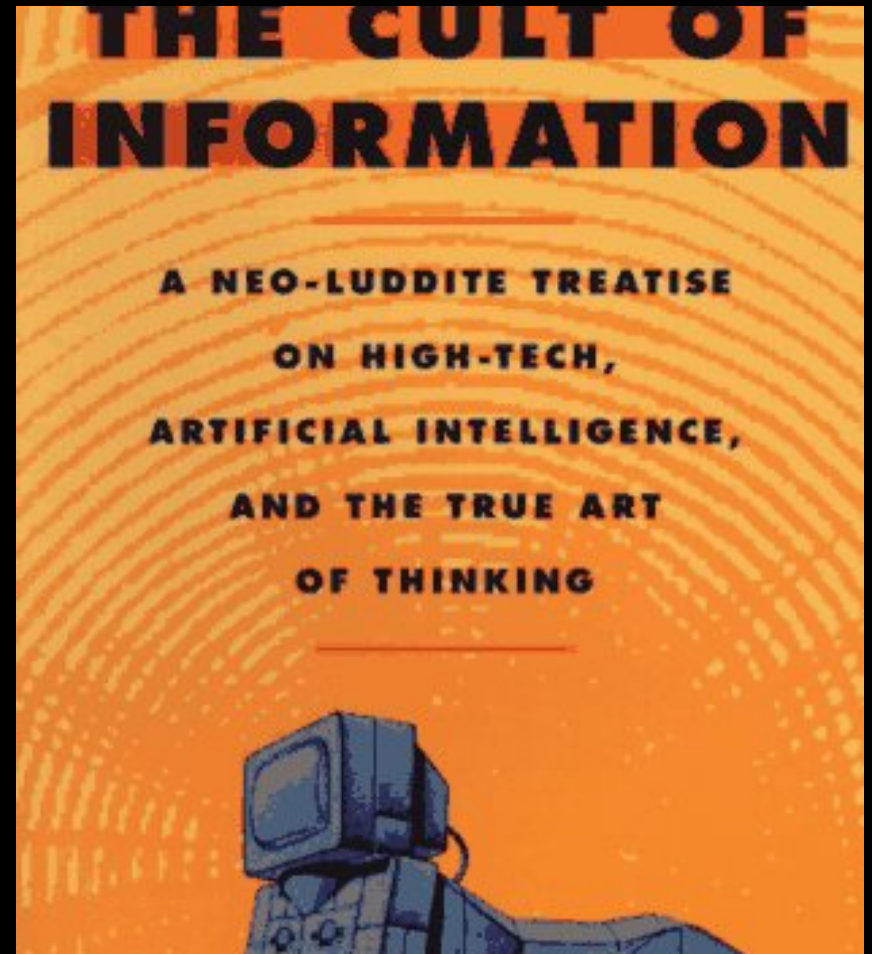


Theodore Roszak



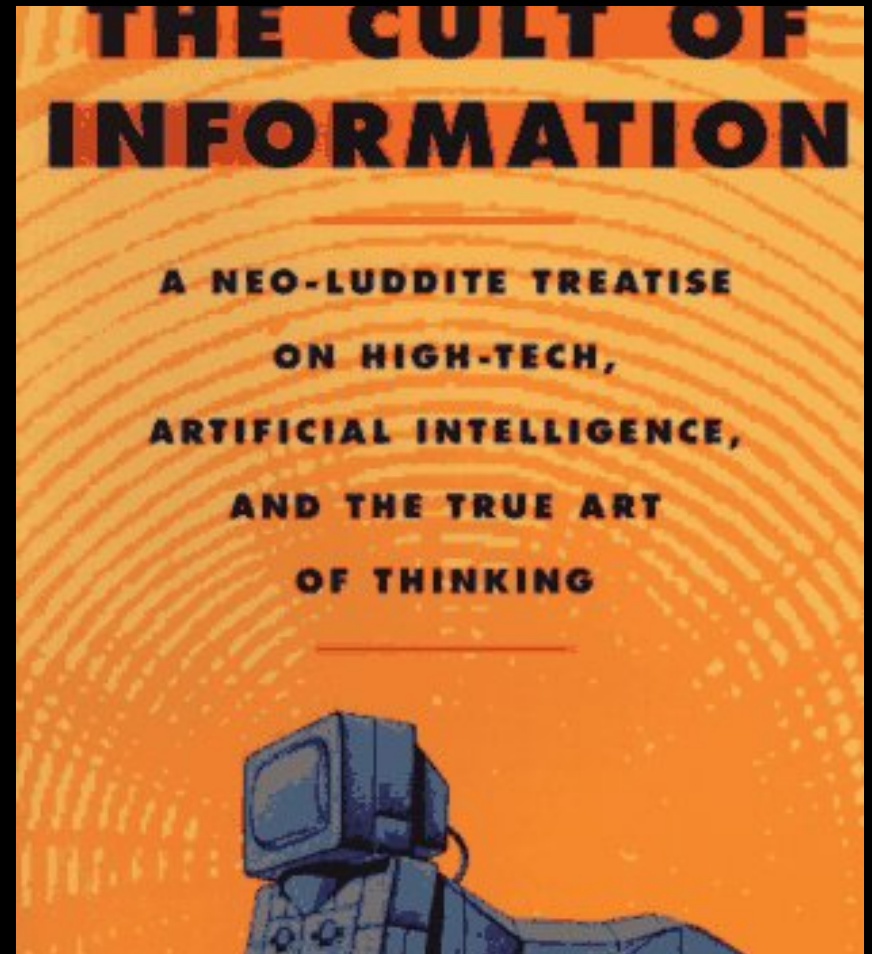
Theodore Roszak

- Computers are only good at two things:



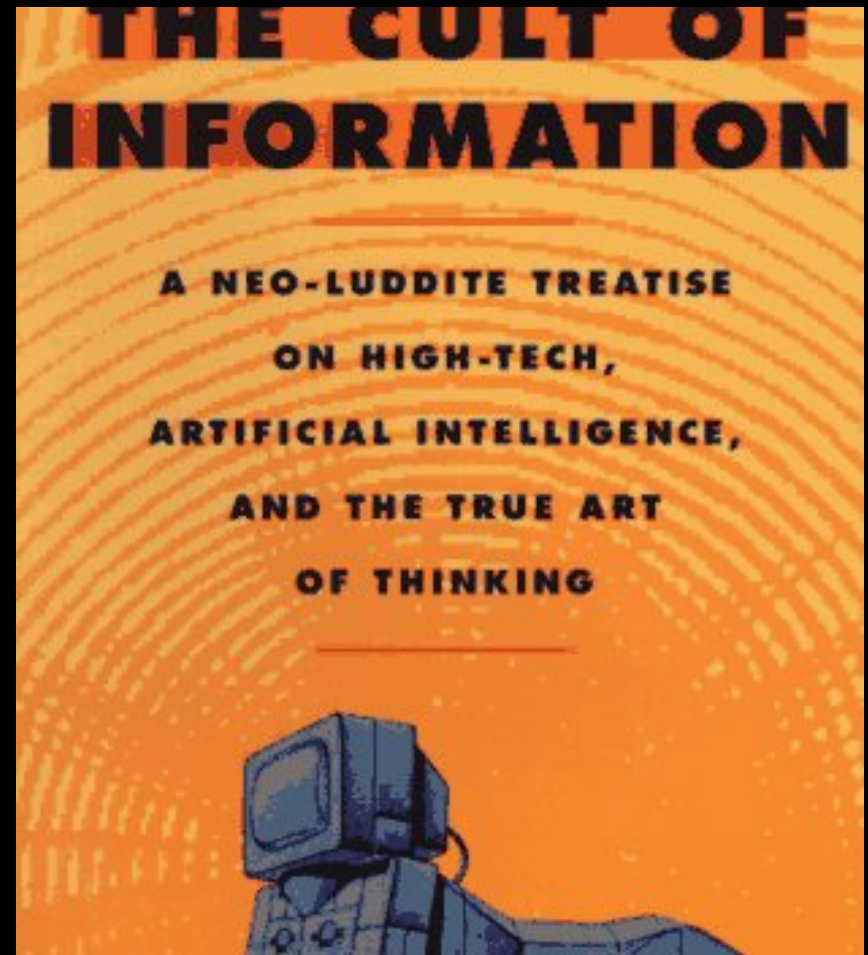
Theodore Roszak

- Computers are only good at two things:
 - **Performing Repetitive Tasks**



Theodore Roszak

- Computers are only good at two things:
 - **Performing Repetitive Tasks**
 - **Storing and Manipulating Large Amounts of Information**



Social Media Does Neither

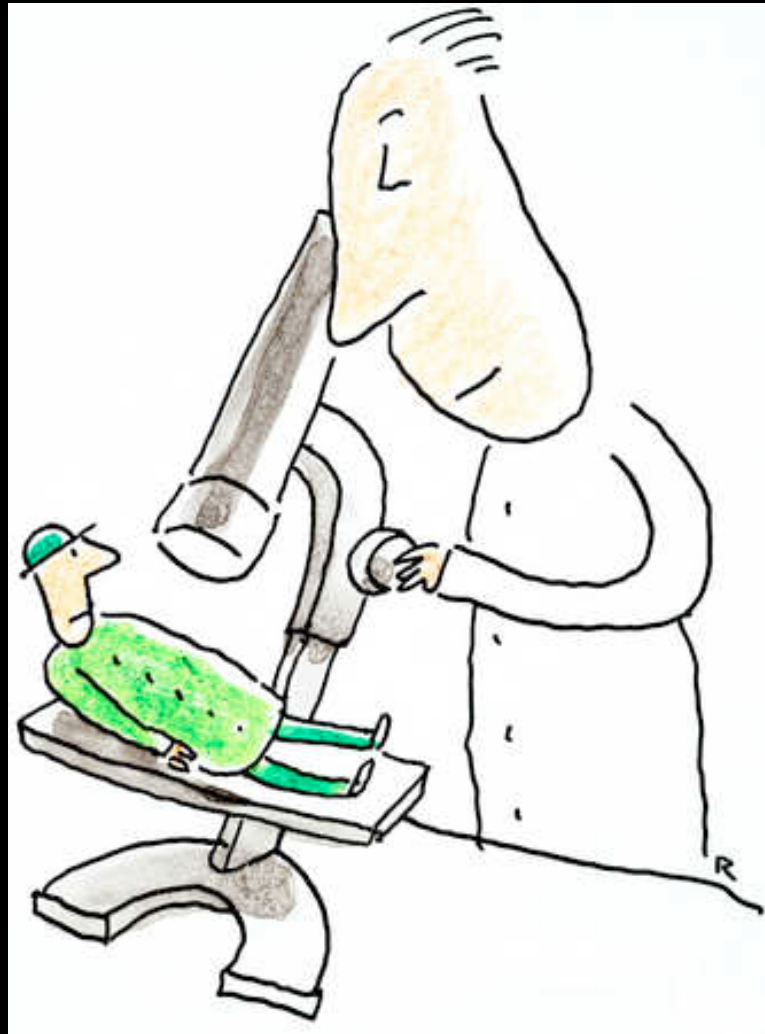
Social Media

- Great for Marketing

Social Media

- Great for Marketing
- Lousy for Communications

Social Media



Social Media



Social Media



Social Media

Social Media

Once contact has been established,
move to another medium

QUESTIONS?

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