# Modern Cryptographic Dissidence

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The right to be let alone is indeed the beginning of all freedom.



- Supreme Court Justice William O. Douglas, 1952



Without strong encryption, you will be spied on systematically by lots of people.



-Whitfield Diffie, 2017



...on balance, the advantages of more widespread use of cryptography outweigh the disadvantages.



-National Research Council Study of US Crypto Policy, 1996



...domestic intelligence activities [that] threaten to undermine our democratic society and fundamentally alter its nature.



-Senate Church Committee, 1976



I would rather be exposed to the inconveniences attending too much liberty than those attending too small a degree of it.



-Thomas Jefferson, 1791



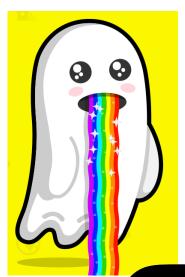
The looming spectre of the widespread use of robust, virtually unbreakable encryption is one of the most difficult problems confronting law enforcement as the next century approaches.



-Louis J. Freeh, Director FBI, 1997

## How Did We Get Here?

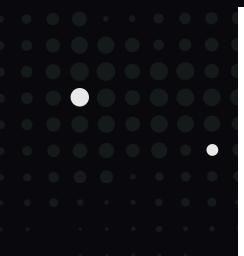
- Crypto Wars v1
- DoD's Category XIII Munitions List
- Clipper Chip
- Netscape US-edition
- Wassenaar Arrangement
- Executive Order 13026
- Crypto reform of 2010
- App-revolution
- Going Dark
- Crypto Wars v2











#### **Netscape Download Page**

- Netscape Communicator 4.04 for Windows 3.x
- Netscape Communicator 4.5 for Windows 95/98
- Netscape 4.08 for Windows 3.1x
- Netscape 4.08 for Windows 95/98 (128-bit encryption)

Extra Downloads: • Netscape Smart Update for Windows 95/98



#### Netscape Smart Update for Windows 95/98

Minimum Requirements: Windows 95/98

Download Size: 97KB

To start download, click here.



#### Netscape Navigator 4.08 Stand-alone Browser for Windows 3.1

(with 128-bit data encryption)

Minimum Requirements: 486 or better processor, Windows 3.1, 3.11, 8MB Ram (16MB Recommended)

Download Size: 9MB To start download, click here.



#### Netscape Communicator Navigator 4.08 Complete for Windows 3.1

Minimum Requirements: 486 or better processor, Windows 3.1, 3.11, 8MB Ram (16MB Recommended)

Download Size: 15MB To start download, click here.



#### Metscape Communicator 4.04 Standard Edition for Windows 3.1

Minimum Requirements: 486 or better processor, Windows 3.1, 3.11, 8MB Ram (16MB Recommended)

Download Size: 17.4MB To start download, click here.

NOTE: After downloading the file, double click on it. You will be asked which directory you would like the files extracted to. (the default is c:\download) After the files are extracted, open File Manager and go to the directory where the files are. Double click on Setup.exe and the program will begin installing. This download version replaces a previous version that caused errors and unusual behavior while extracting the files.



#### Netscape Communicator 4.5 Standard Edition for Windows 95/98

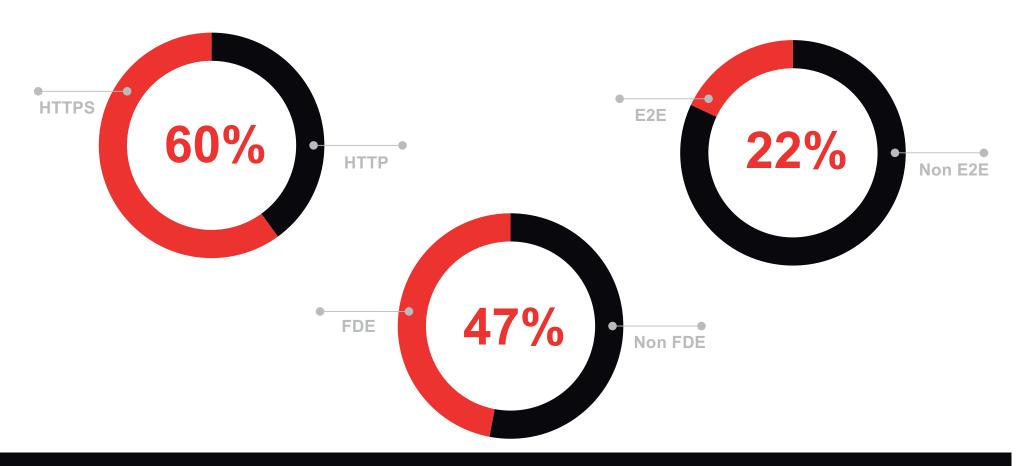
• Customized for Cintek Clients •

Minimum Requirements: 486 or better processor, Windows 95, 98, 8MB Ram (16MB Recommended)

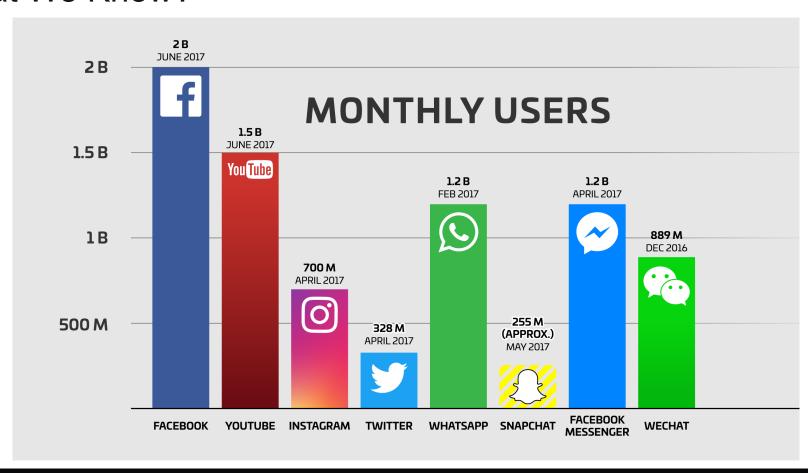
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Close Window

## What We Know?



## What We Know?



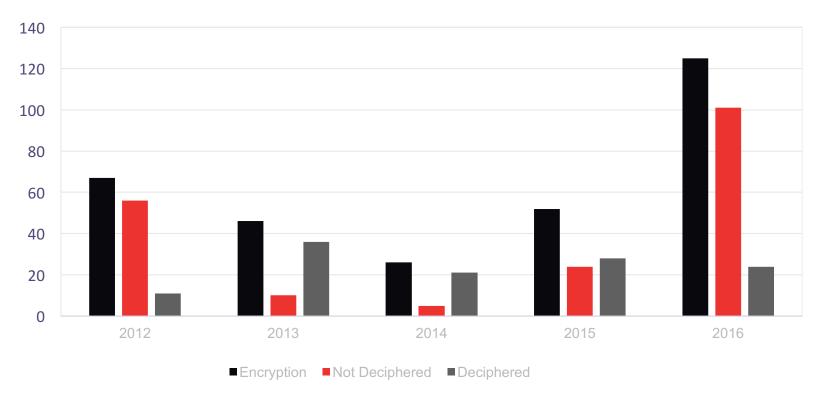
# What Are The Arguments?

### Government

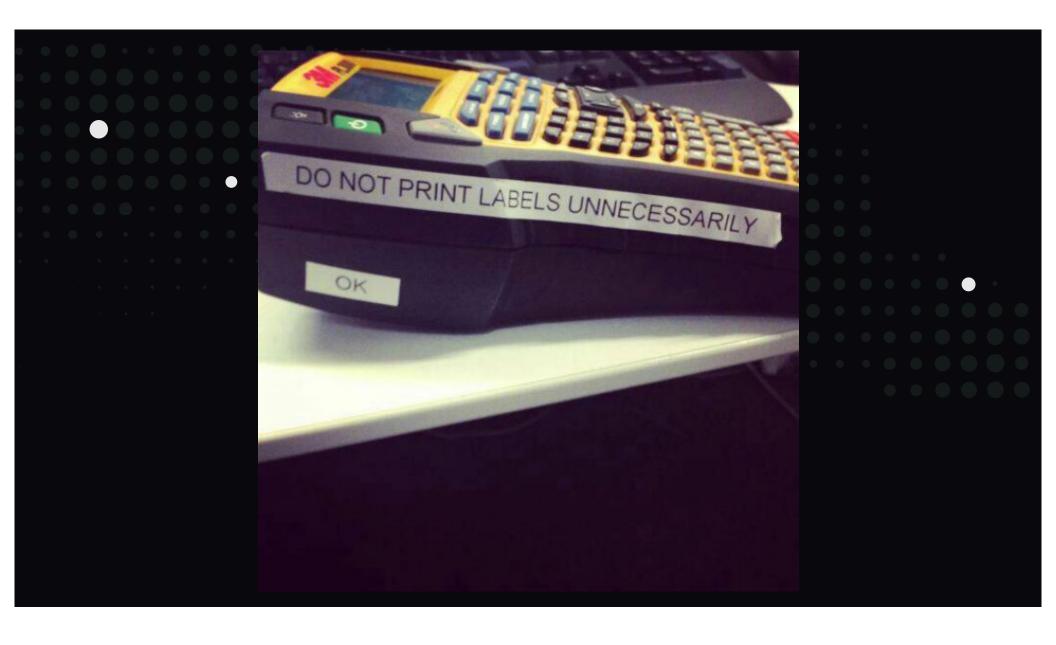
- To protect and serve
- Going dark
- Lawful access to evidence
- Exceptional access to evidence
- Trusted escrow service
- LE requests are more complex
- CALEA is not modernized



# Going Dark?



**Encryption Status of Reported Wiretaps** 



# What Are The Arguments?

## Corporations

- Obligation to protect the user
- Law enforcement requests are a burden
- Government shouldn't force software changes
- Don't stifle innovation
- Forward secrecy is the future

# What Are The Arguments?

## Cypherpunks

Slippery slope for law enforcement methods

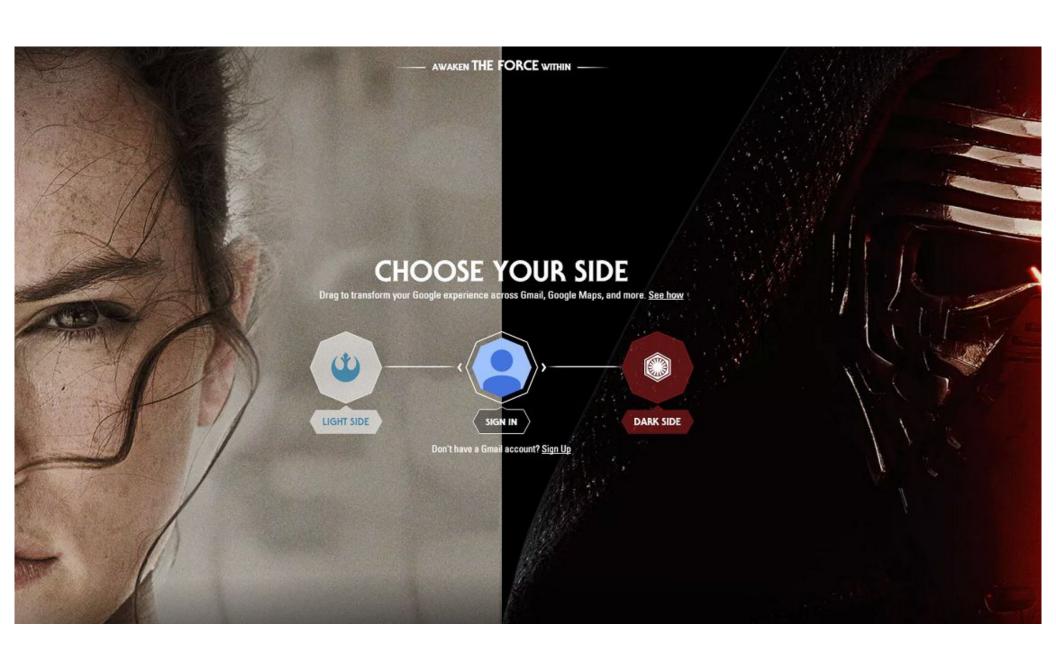
Government misuse

Backdoors will make everything unsafe

Govt and Corp can't grant us privacy

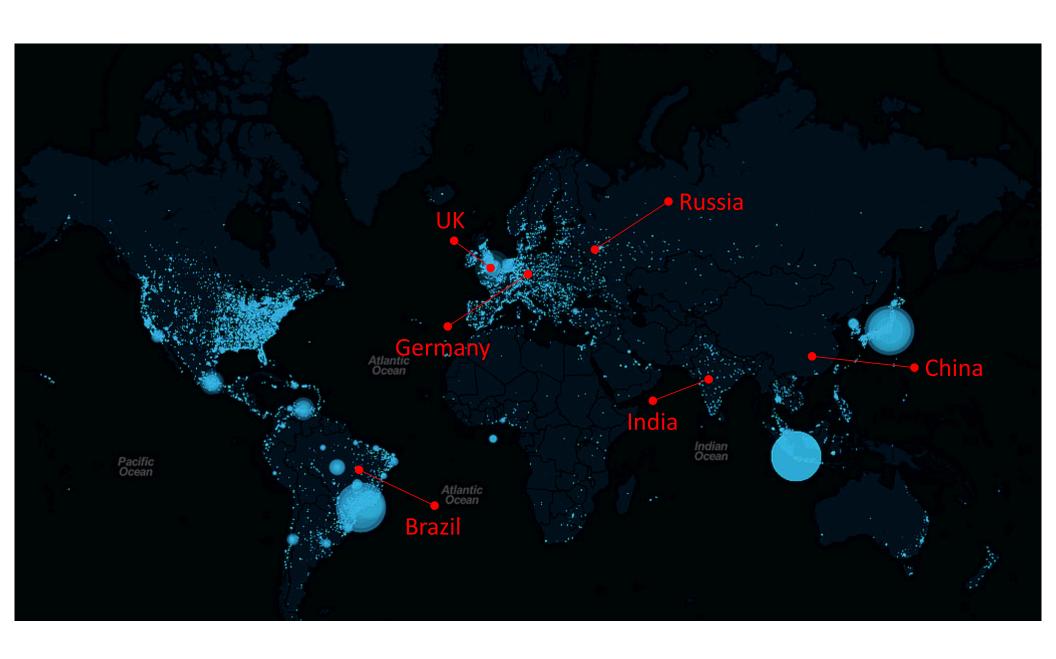
Not anti-Govt





## Good News Everyone...Bad News!

- Privacy is dead
- Governments are losing visibility
- State/locals will need serious help
- Backdoors to encryption don't work
- No exceptional access policy is defined
- Big data has no legal boundaries anymore
- "The Cloud" is advancing encryption tech
- Visual data encryption
- Internet is segmenting with data localization laws





### What Are The Alternatives?

- Exceptional access
- Enhanced metadata collection (IoT)
- Network investigative techniques
- Better big data analytics
- HUMINT
- Better collaboration and cooperation from service providers
- Law enforcement training
- Consolidated practices for requesting data
- Reform of global legal
- Quantum computing :bwaaaahhhhh!!:



A qubit a day, keeps encryption away.



