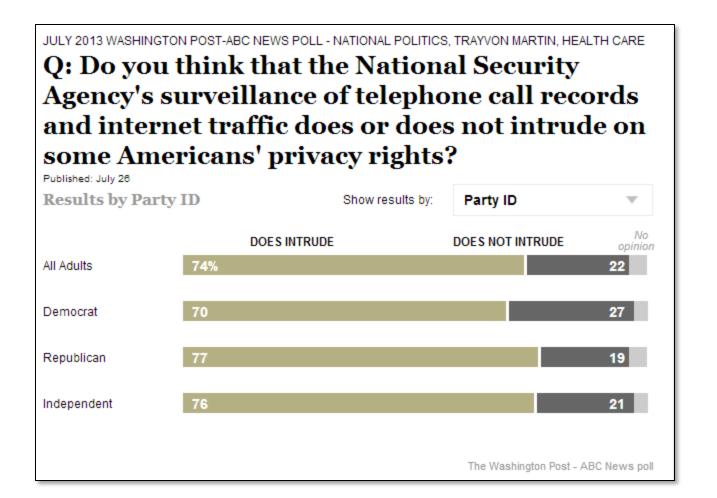


[ how soon can we reboot? ]

SECURITY AND PRIVACY















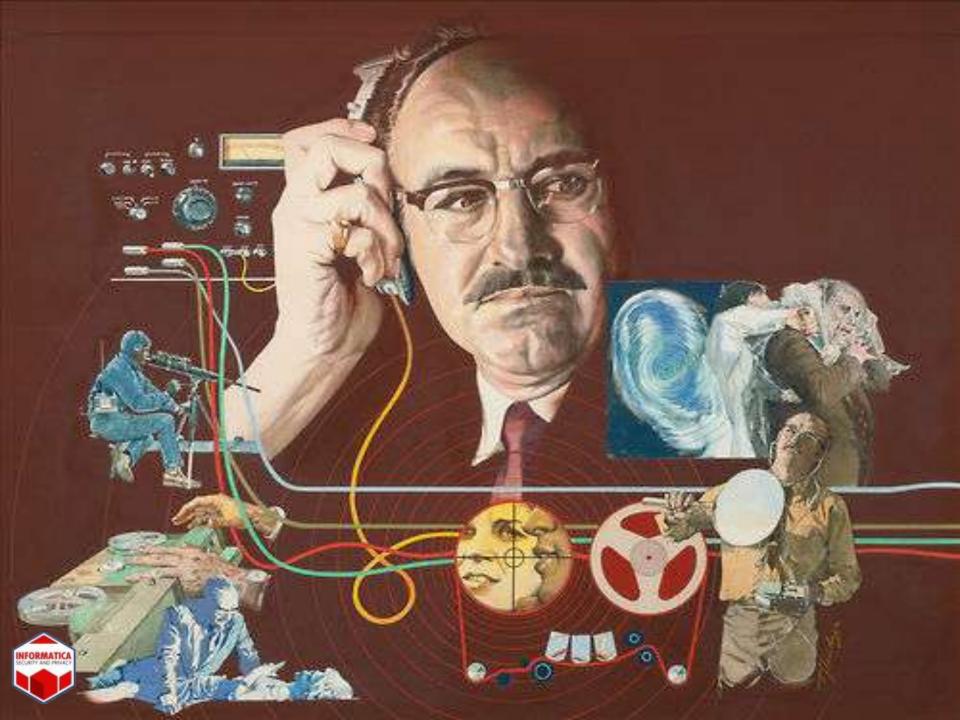






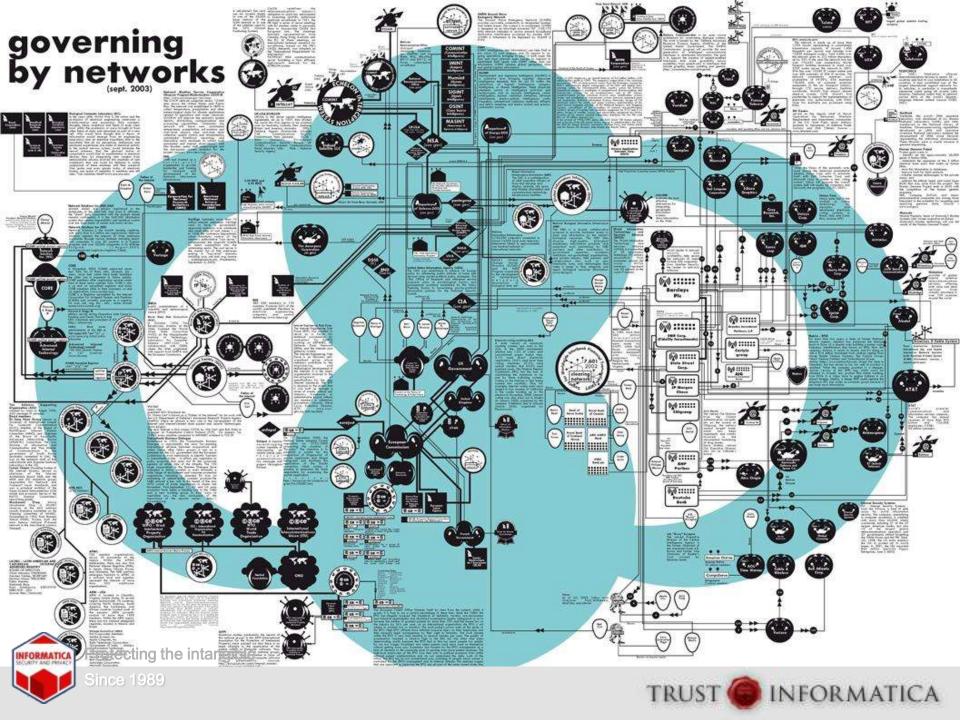
# SHIFT FREEDOM

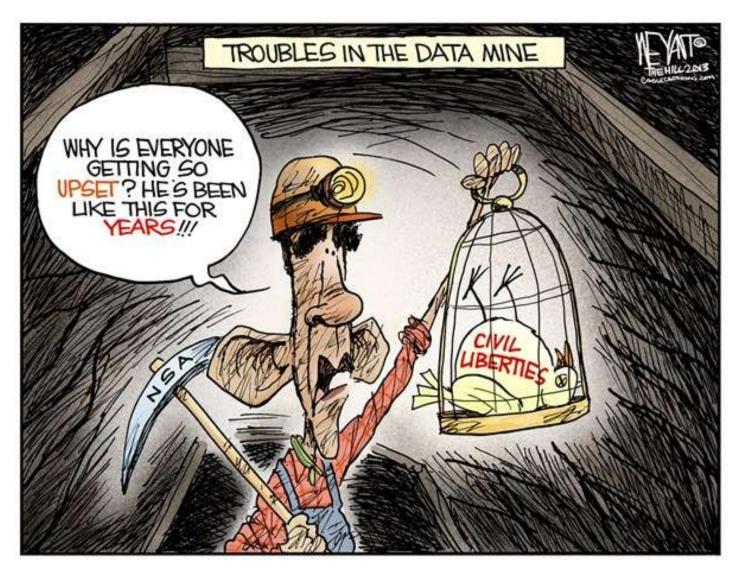
















## NIST Special Publication 800-90A

# Recommendation for Random Number Generation Using Deterministic Random Bit Generators

Elaine Barker and John Kelsey

Computer Security Division Information Technology Laboratory

# COMPUTER SECURITY













The Security Division of EMC











US008396213B2

(12) United States Patent Brown et al.

(10) Patent No.: (45) Date of Patent:

US 8,396,213 B2

Mar. 12, 2013

#### (54) ELLIPTIC CURVE RANDOM NUMBER GENERATION

- (75) Inventors: Daniel R. L. Brown, Mississauga (CA); Scott A. Vanstone, Campbellville (CA)
- (73) Assignee: Certicom Corp., Mississauga, Ontario (CA)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1283 days.
- (21) Appl. No.: 11/336,814
- (22) Filed: Jan. 23, 2006
- (65) Prior Publication Data

US 2007/0189527 A1 Aug. 16, 2007

#### Related U.S. Application Data

- Provisional application No. 60/644,982, filed on Jan. 21, 2005.
- (51) Int. Cl. H04L 9/00 (2006.01)
- (52) U.S. Cl. ............. 380/44; 380/286; 380/28; 380/45; 380/46; 713/157

#### (56) References Cited

#### U.S. PATENT DOCUMENTS

5,442,707	A		8/1995	Miyaji et al 380/30
6,044,388	A		3/2000	DeBellis et al 708/254
6,088,798	A	0	7/2000	Shimbo 713/176
6,243,467	BI		6/2001	Reiter et al 380/30
6,263,081	BI		7/2001	Miyaji et al 380/28
6,307,935	BI		10/2001	Crandall et al 380/28
0,307,933			10/2001	Camuan et al 360/2

CA 2381397 A1 2/2001 JP 2001222220 8/2001

#### (Continued) OTHER PUBLICATIONS

Dr RW Lichota, Verifying the correctnes of cryptographic; using "convince", IEEE, Dec. 13, 1996, pp. 119-122.\*

(Continued)

Primary Examiner — Nathan Flynn Assistant Examiner — Viral Lakhia

(74) Attorney, Agent, or Firm - Fish & Richard

(57) ABSTRACT

An elliptic curve random number generator avoids escrow keys by choosing a point Q on the elliptic curve as verifiably random. An arbitrary string is chosen and a hash of that string computed. The hash is then converted to a field element of the desired field, the field element regarded as the x-coordinate of a point Q on the elliptic curve and the x-coordinate is tested for validity on the desired elliptic curve. If valid, the x-coordinate is decompressed to the point Q, wherein the choice of which is the two points is also derived from the hash value. Intentional use of escrow keys can provide for back up functionality. The relationship between P and Q is used as an escrow key and stored by for a security domain. The administrator logs the output of the generator to reconstruct the random number with the escrow key.

64 Claims, 6 Drawing Sheets









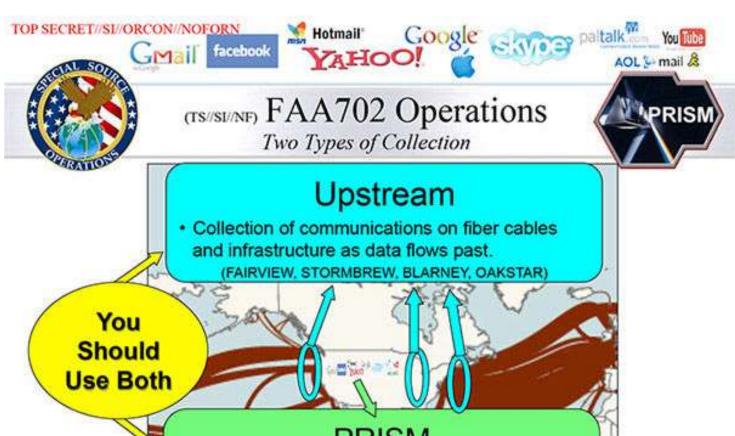


BlackBerry









### **PRISM**

 Collection directly from the servers of these U.S. Service Providers: Microsoft, Yahoo, Google Facebook, PalTalk, AOL, Skype, YouTube Apple.

TOP SECRET//SI//ORCON//NOFORN

See the entire collection of published NSA slides >





# U.S. cloud industry stands to lose \$35 billion amid PRISM fallout

**Summary:** Revelations of the U.S. government's spying programs could have a massive impact on the U.S. cloud industry, which stands to lose vast sums over the next three years as a result — compounded by other countries bankrolling efforts to combat U.S. market leadership.



By Zack Whittaker for Zero Day | August 6, 2013 -- 09:16 GMT (02:16 PDT)

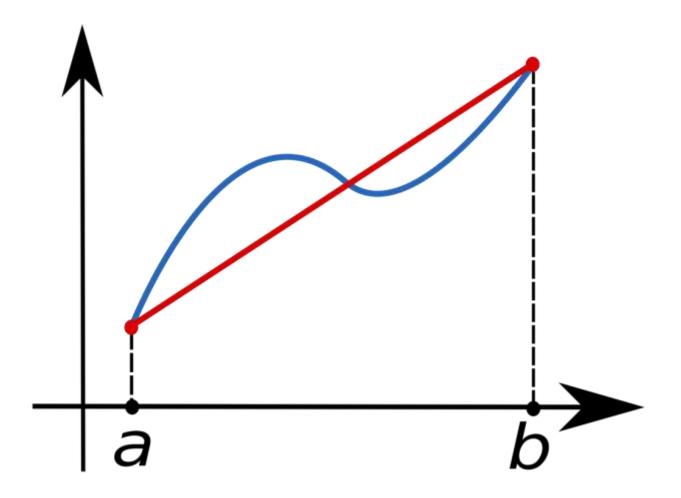
Follow @zackwhittaker

















# The FBI has not been here

[watch very closely for the removal of this sign]







#### In Remarkable Turnaround, Republicans Officially Denounce NSA Phone Surveillance

-By Kevin Drum | Sat Jan. 25, 2014 9:21 AM GMT

439 Tweet 237 | Like 6.4k

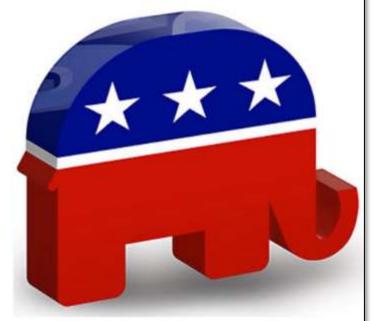
This is easily the most remarkable story of the year so far. As you read it, keep in mind that this is not about a resolution from some fringe libertarian group. It's about a resolution from the Republican National Committee,

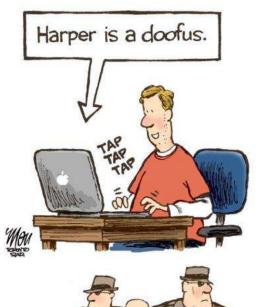
the very embodiment of establishment conservatism:

> In a jarring break from the George W. Bush era, the Republican National Committee voted Friday to adopt a resolution demanding an investigation into the National Security Agency's spy programs.

According to the resolution, the NSA metadata program

revealed by former NSA contractor Edward Snowden is deemed "an invasion





























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OCTOBER 25, 2013 | BY DANNY O'BRIEN



# Ten Steps You Can Take Right Now Against Internet Surveillance

One of the trends we've seen is how, as the word of the NSA's spying has spread, more and more ordinary people want to know how (or if) they can defend themselves from surveillance online. But where to start?

The bad news is: if you're being personally targeted by a powerful intelligence agency like the NSA, it's very, very difficult to defend yourself. The good news, if you can call it that, is that much of what the NSA is doing is mass surveillance on everybody. With a few small steps, you can make that kind of surveillance a lot more difficult and expensive, both against you individually, and more generally against everyone.





# Where does this leave us?

- Bipartisan opposition
- Open source adoption
- Independent auditing
- Mistakes measurable
- Improved public awareness
- Reboot time: now
- Remediation time: just start





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