Trustworthy Elections

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"**Trustworthy** (*adjective*)
1. able to be relied on as honest or truthful:
leave a spare key with a **trustworthy** *neighbor.*
2. worthy of confidence — dependable:
a **trustworthy** *guide,* **trustworthy** *information*

–macOS Dictionary app and Webster's dictionary

Honest and Truth are hard to come by these days.

Foreign and domestic disinformation campaigns sow distrust in our government, corporations, our institutions, our press, science, and each other.

We have a loss of trust on both sides.

I'm not talking about America and Russia.

I'm talking about cybersecurity professionals…

and elections officials

and appointed federal officials

and vendors.

Statements of Note

- NASS Statement on DEFCON Voting Machine Hacking Events

- An Open Letter to American Voters from the Executive Committee of the Government Coordinating Council (NASED)

- Statements made by appointed federal government officials within DHS, the EAC, and FBI.

- Statements made by elected election officials.

"NASS is standing by, ready to work with civic-minded members of the DEFCON community wanting to become part of a proactive team effort to secure our elections with the shared goal of increasing voter confidence."

–NASS August 9 2018 Statement

"For the last 18 months voters have been confronted with some true and troubling information, and your natural concerns have been intensified by the misreported information about election security. "

–NASED March 16 2018 Statement

- How does one earn trust?

  - Tell the truth. Be authentic.

  - Provide evidence. Use reason.

- But in order to trust the outcome of an election, we must not trust any…

    - person,

    - machine, or

    - **company**.

"Trust, but verify."

–Ronald Reagan

The Vendors

- Avante International Technology

- Clear Ballot Group

- Dominion Voting Systems

- Election Systems & Software (ES&S)

- Everyone Counts

- Hart InterCivic

- MicroVote General Corp.

- Open Source Digital Voting Foundation (aka OSET)

- Precise Voting

- Smartmatic USA Corporation

- SOE Software, a Scytl Company

- TruVote International

- Unisyn Voting Solutions

- Votem Corp.

Vendors are not begin authentic nor are providing public evidence of their systems correctness or security.

Free & Fair is a new vendor,
by virtue of our work for Colorado
on the Risk-Limiting Audit system,
our six demonstration products, and
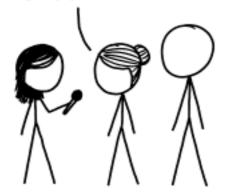our submitting proposals to several RFPs.

My 2015/16 Invited Talks

- In early 2015 and 2016 (well before the election), I was invited to give talks at NASS & NASED.

- My Feb 2016 NASED talk was called "The Best Election Money Can Buy".

  - One key recommendation: Risk-limiting Audits.

- My NASS talk in July 2015 was called "The Future of Voting".

  - The key outcome summarized was verifiable voting.

- Trustworthy elections are software independent.

- The two keys to having trustworthy elections.

  - Risk-limiting Audits ("Trust, but verify.")

  - Verifiable Elections ("Verify your trust.")

"There are lots of very smart people doing fascinating work on cryptographic voting protocols. We should be funding and encouraging them, and doing all our elections with paper ballots until everyone currently working in that field has retired."

–XKCD 2030

Let's Solve the Problem

- The federal bills that mandate paper ballots and risk-limiting audits must become law.

- Authorities and the public must treat elections as nationally critical infrastructure.

- New federal standards for elections systems certification must include all kinds of elections technology, must mandate software independence, and must mandate public evidence of correctness and security.

- Cybersecurity professionals must constructively work with federal, state, and local election officials and we must build trust in each other.

Spending Must Change

- ~$10B on political advertising in 2016

- >$3B a year on lobbying

- <<$100M a year on traditional cybersecurity

- <$10M a year on R&D

Here is our public declaration as a vendor.

We encourage other vendors to do the same.

- Free & Fair promises to…

  - openly publish all source code and hardware designs under familiar open source licenses

  - work directly with and support authorities to completely understand the features and security of all of our technologies

  - always directly tell the truth and provide verifiable evidence of our claims

  - bring our voting systems to DEFCON henceforth to support and encourage public analysis

But most importantly…

Free & Fair promises to…

always tell the truth, and

provide evidence.