Ghosts in the Machine

Hidden Susceptibilities in New York Voter Rolls

Election Goals

- One Eligible Voter, One Eligible Vote
- Easy to Vote
- Hard to Cheat
- Simple to Count

Building Blocks of an Election

- Voter Roll
- Voting
- Tabulation / Report
- Audit

Voter Roll

- A secure and accurate database
- Updated frequently
- Secure from outside manipulation
- Reflects a list of all Eligible Voters
- Excludes Ineligible Voters

Voter Roll Flaws

- Out of Date Entries
- Incorrect Entries
- Duplicate Entries
- Ineligible Voters

Voter Roll Flaws

- Antiquated Systems
- Unsupported Software
- Security Flaws
- Vulnerable to Cyberattacks

Elections / Voting

- Admitting Eligible Voters
- Recording Voter Choice
- Tabulating Cast Votes

Voting Flaws

- Flawed Voter Rolls
- Flawed Voter System
- Insecure Tabulation Systems

Voting Flaws are Common

- Polling Locations Open Late / Close Early
- Technical issues allow voters to vote in multiple locations

- Harris County, Texas
  - Claims of Incorrect Votes Recorded
  - Ran out of Ballot Paper at many sites
  - Used Incorrect Paper

Tabulation / Who Won?

- Count all eligible votes
- Exclude Ineligible Votes
- Announce Winner

Tabulation Flaws

- Ineligible Votes
- Duplicate Votes
- Missing Votes
- Voter Fraud
- Election Fraud

Election Fraud

- Manipulate Votes
- Obscure Ineligible Votes
- Ghost Voters

Ghost Voters

- Fraudulent Voters
- Undetected
- Registration Manipulated

- Added to Rolls
- Vote Cast/Counted
- Removed from Rolls

Ghosts Hide In Plain Sight

- Steganography
  - Hidden Message
- Invisible Ink
- Cryptography
  - Hidden Content
- Secret Code

Computer Trojan Attack

- Some picture or file that is similar to legitimate attachments
- Opened by the unsuspecting recipient
- Found by using the proper tool
  - Trojan (Horse) infects your computer
  - Antivirus programs sees the hidden bits

Computerized Election Systems

- Attacks on election systems
- Introduce data to influence elections
  - Corrupt election equipment
  - Corrupt election data
  - Create Ghost Voters

New York Voter Rolls

Caesar Cipher

- Shift and Substitute Cipher
  - "ABC" is written "DEF"
  - "Ghost Vote" becomes "Jkruw Yrwh"

NY Steganographic Algorithm

- Step 1: Shift SBOEID & CID Numbers

- Step 2: Stack the Deck

- Result: Hidden Structure in the database

Pool of Ghost Voters

- Ghost Voters "look" legitimate
- Request mail ballots
- Cast votes that are then counted
- Removed from voter roll later

North Carolina 2020

- 1760 Ghosts voted
- Votes cast by unverified voters
- State Supreme Court race determined by less than 450 votes

- John Locke Foundation

Nevada 2023

- 1.8 Million Ballots mailed out
- 1.2 Million Ballots disappeared
- 95,556 Ballots sent to "Bad" Addresses

Public Interest Legal Foundation

Las Vegas / Clark County NV

- Journalist submitted 9 ballots by mail
- Signatures accepted on 8 of 9 ballots
- Ballot By Mail (BBM) ripe for abuse by exploiting ghost voters

Victor Joecks, Las Vegas Review-Journal

Georgia

- Georgia loosened signature matching for mail-in ballots in 2020
- Far easier to match ghost voter's signatures to ballots than ever before!

Pennsylvania

- Allegations of "extra" votes cast in Pennsylvania persist (mixed data from primary and general election)
- SOS changed the criteria for signature verification with mail-in ballots?
- Were some of these voters Ghosts?

Potential Exploits (Young & Blehar)

1. Keep ineligible people on Voter Rolls
2. Do not require in-person ID
3. Encourage greater us of Ballot by Mail
4. Discard signatures on BBM
5. Do not verify signatures carefully
6. Continue counting BBM after election day

More from Young and Blehar

7. Take breaks during vote counting.
8. Limit observers while counting
9. Connect Polling machines to the internet
10. If you cheat, cheat a little in a lot of places
11. Cheat where no one expects it
12. Use many techniques to change votes

Common Sense

- Accurate and secure voter rolls decrease fraud in elections
- Ghost voters invite meddling by Foreign and Domestic Bad Actors

Sad Facts

- Voter registration databases a mess
- Ghost voters invite significant fraud
- Election Officials defensive of outdated system, perpetuating vulnerabilities

Always Look for Fraud

Absence of Evidence is not Evidence of Absence.

- Carl Sagan