THREATS TO VOTER REGISTRATION
Source of New Voter Registration Forms, 2016

- Department of Motor Vehicles: 33%
- Online: 17%
- Mail, email, fax: 17%
- Other: 15%
- In person at local election office: 12%
States with Same Day and Election Day Registration

Legend:
- States that have enacted same day registration, including on election day.
- States that have allowed same day registration only during the early voting period.
- States that have passed election day registration but have not implemented it.
Automatic Voter Registration

DMV (or other designated agency)  Election Officials
Protecting Voter List Information

• Who can access voter lists?
• What information on voters is available to requestors? Does it include personal identifiable information?
• What information is contained in the statewide voter registration database? If a hack occurred, what information on voters could be accessed?
• Restrictions on use of the voter list
• Voter roll audit
The Tech Angle

• Which technologies are used?
• What are the potential security gaps?
• How could you disrupt registration?
Technologies Used

• Local IT infrastructure
• Cloud-based infrastructure
• Web-based or App-based voter access
• Communication encryption
• Input Validation
Potential Security Gaps

• Phishing
• Network & Internet connectivity
• Security weaknesses in underlying commercial-of-the-shelf (COTS) products
• Errors in authentication & access control management configuration
• Data validation
• Backup & auditing
Disrupting Registration

• Fake registrations
• Misinformation
• Unauthorized access
• Targeting upstream state & cloud-based infrastructure
Policy Choices?
Where We Vote

Mail Voting

Vote Centers

Traditional Neighborhood Polling Places
Returning Ballots

Ballots Received by Local Election Official

- Absentee Ballots
- In-Person Locations
- Electronically Transmitted Ballots
Accommodating Voter Groups

• Voters with disabilities
• Rural voters
• Native American voters
The Tech Angle

• What are security procedures are usually in place during the voting process?
• Where are the potential gaps?
Security Procedures

• Administrative controls
• Technical controls
• Physical controls
Potential Security Gaps

• No paper trail
• Exploiting accessibility features
• Information siloes
• Malware
A Brief History of Voting Technology
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Post-Election Audits
Things Legislators Could Address

• Require post-election audits
• Voting equipment with a paper trail
• The audit scope – what is audited and what percentage?
• Consider a risk limiting audit
• When is the audit conducted
• What happens if there is a discrepancy?
Use of the Internet to Facilitate Voting

• Blank ballot delivery
• Electronically transmitted ballots from some
• Remote ballot marking tools
• Voter information and polling place lookup
• Publish unofficial results
The Tech Angle

• Which technologies are used?
• What security issues could there be with using the Internet to facilitate voting?
Technologies Used

- Two-factor authentication
- Social media
- Blockchain
- Local IT infrastructure
- Cloud-based infrastructure
- Web-based or App-based voter access
- Communication encryption
- Input Validation
Potential Security Issues

- Spoofing identity of voters
- Outdated encryption
- Misinformation
Policy Choices?
THREATS TO REPORTING RESULTS
Official vs. Unofficial Results

When are results “official?”

a) As soon as they’re first reported on election night
b) When local officials report 100% of precinct results
c) Several weeks after the election
Connection to Election Model and Equipment
The Tech Angle

• Which technologies are used?
• What are the potential security gaps?
• How could you disrupt an election?
Technologies Used

• Scalable infrastructure
• Social media
Potential Security Gaps

• Dedicated devices
• Polling place support
• Network & Internet connectivity
• Security weaknesses in underlying commercial-of-the-shelf (COTS) products
• Errors in authentication & access control management configuration
• Data validation
Disrupting Reporting Results

• Denial of service attacks
• Misinformation
Policy Choices?
Questions?

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