



Guest Speaker – Mr. Guy Mickley,
Director, Howard County Board
of Elections

The HoCoMD Defend Democracy
Team is pleased to present:

“Howard County Elections – Behind
the Scenes”

13 August 2019
6:30-7:30 PM
Columbia, Maryland

Howard County Elections – Behind the Scenes

Protecting Election Security, especially Cybersecurity, is crucial for Democracy
Did you know...

The MD Board of Elections website states Maryland was “one of 21 states with suspicious online activities before the 2016 election.”

However, incident response found “**no** evidence the online registration and ballot request system was breached or fraudulent transactions were submitted.”

https://elections.maryland.gov/about/election_security.html

The US Senate Intelligence Committee reported in July that it found election systems of all 50 states were ‘probed’ by Russia. <https://www.theverge.com/2019/7/25/8930985/russia-targeted-election-systems-in-all-50-states-senate-concludes>

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What is the difference between a cyber “probe,” a “breach,” and a “hack”?

Scan - automated review of websites, which occur every day for all sites on the Internet.

Probe - *unsuccessful* attempt to gain access to a system. This is what happened to our online voter registration and ballot request system before the 2016 General Election.

Breach or Hack - *successful* attempt to gain access to a system. Did not occur for Maryland.

The US Intelligence community found that election systems of 7 states were *breached* before the 2016 General Election. <https://www.nbcnews.com/politics/elections/u-s-intel-russia-compromised-seven-states-prior-2016-election-n850296>

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Senate Democrats pressed to provide more election security funding (S 1540 – Election Security Act), but the Senate Majority Leader blocked in July a vote on the Senate bill.

<https://www.cbsnews.com/news/mitch-mcconnell-blocks-election-security-bill/>

<https://thehill.com/blogs/floor-action/senate/450334-senate-gop-blocks-election-security-bill>

What is Maryland doing toward election security?

Competed for and won selection to work with the National Governors Association to improve cybersecurity of its election infrastructure <https://gcn.com/articles/2019/07/08/nga-cybersecurity-states.aspx>.

Implementing an Election Cyber Security Plan

<https://elections.maryland.gov/about/documents/Maryland%20Cyber%20Election%20Posters.pdf>.

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Maryland Cyber Election Poster.pdf - Adobe Acrobat Reader DC


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2018 Election Cybersecurity Planning Snapshot State of Maryland



SAFEGUARDS / RESILIENCY MEASURES

Maryland Election Process

Pre Election Activities

- Voters Registered
- Election Day Activities
- Post Election Activities

Pre Election Safeguards

- Voters Registered
 - Voter registration database security measures include rigorous monitoring, a multi-layer defense, and regular security updates.
 - All State and local election officials receive regular security training and work with DHS to ensure the database meets federal security standards.
 - Integrity of the voter registration database verified through all authorized sources.

Election Day Safeguards

- Voters Checked In
 - Pol worker verifies voter identity by matching voters ID to voter database.
 - Electronic pollbooks are provided at all voting locations.
 - Falsified measures protect voters right to vote.
- Voting, Tallying, & Reporting Systems
 - Vigorous logic and accuracy testing before election.
 - Voting systems are never connected to the Internet.
 - Ballots are securely stored with extensive chain of custody procedures.
- Voters Cast Ballots
 - Maryland's elections are paper ballot-based with electronic tabulation; the paper ballot is the official record.
 - Absentee ballots must be returned by mail or delivered in person; electronic submission is prohibited.
 - Absentee ballots tracked and kept in a secure location.

Post Election Safeguards

- Election Results Tabled
 - Precinct and state officials compare and reconcile the number of ballots with the number of voters who signed in at the polling place.
 - Post-election audits include an independent, 100% tabulation of ballot images before certifying official election results; audit results are available to the public.

Election Day Security Guidelines

Ballot security: All marked paper ballots are scanned, tabulated, and secured in a locked ballot box. After polls close, the local boards of elections will safely store the marked paper ballots.

Equipment security: Election officials test each ballot scanner before each election. After testing, election officials seal each ballot scanner and store it in a secure location until it is securely moved to a voting location. Each scanner is sealed until it is ready to use.

THREAT MITIGATION

Specific Threats / Mitigation

- Social Engineering** refers to bad actors who manipulate their target into performing a given action or divulging certain information (often a login or password). "Spear-phishing" (sending an email attachment or link to infect a device) is the most common. Mitigation: Education and training on threats and types of targeted information; conducting phishing campaign assessment.
- Information Operations** include propaganda, disinformation, etc., to manipulate public perception. Methods include leaking stolen information, spreading false information, amplifying divisive content, and or interrupting service. Mitigation: Clear and consistent information, including accurate cybersecurity terminology; relationship building with the media; open dialog with the public.
- Hacking** refers to attacks that exploit or manipulate a target system to disrupt or gain unauthorized access. Mitigation: Incident response and recovery planning; penetration testing; strong passwords and two-factor authentication, especially for admin access; encrypted password storage and transmission; active system monitoring; current security updates; upgrades to supported OS and applications; physical security.
- Distributed Denial of Service (DDoS)** attacks seek to prevent legitimate users from accessing information (e.g., databases, websites) or services by disrupting access with excessive traffic, causing the service to crash. Mitigation: Business continuity and incident response planning; anti-virus software and firewall; good security practices for distributing your email address, email filters.
- Insider Threat** is a category of attack in which a current or former employee or authorized individual with access to a network, system, or data deliberately uses their access for malicious purposes. Mitigation: Background checks for all election workers and contractors; insider threat training; vigorous chain-of-custody records; strict access controls based on need and updated as access needs change.

Definitions from The State and Local Election Cybersecurity Playbook: Defeating Digital Democracy (www.defeatingdigitaldemocracy.org/SLP)

Recognizing and Reporting an Incident

Definition of an Incident: A violation or imminent threat of violation of computer security policies, acceptable use policies, or standard security practices (NIST Pub. 800-61)

If you suspect a Cybersecurity Incident has occurred, contact--

- Maryland State Board of Elections: (410) 269-2640, (800) 222-8663 (Toll Free), (800) 735-2258 (TTY), or sls@sb.elections.state.md.us
- National Cybersecurity and Communications Integration Center (NCCIC): (888) 282-0670 or NCCIC@hhs.dhs.gov
- Elections Infrastructure Information Sharing and Analysis Center (E-ISAC) Security Operation Center: (866) 787-4722 or sec@eisc.org

For Additional Information or Questions

Maryland State Board of Elections: (410) 269-2640, (800) 222-8663 (Toll Free), (800) 735-2258 (TTY), or sls@sb.elections.state.md.us

U.S. Department of Homeland Security: www.dhs.gov/topic/election-security

- Franco Cappa, Region II Cybersecurity Advisor: franco.cappa@hhs.dhs.gov
- William J. Ryan, Region II Director for Infrastructure Protection: ljryan@hhs.dhs.gov

2018 ELECTION INITIATIVES

State Election Data

Precincts: 1,991
Active Voters: 3,955,316 (as of September 2018)
Optical Voting System: ES&S DS 200 Scanning Unit
Accessible System: ES&S Express Vote Ballot Marking Device
Website: elections.maryland.gov

2018 Activities and Timeline Checklist

- ☒ Initiative 1: Schedule Cyber Hygiene Scanning. Contact ncciccustomerservice@hhs.dhs.gov and reference "Maryland Cyber Hygiene Initiative" to obtain this service free through DHS. (Completed October 2018)
- ☒ Initiative 2: Conduct Regional Manager Computer Assessments -- monthly assessment of all computers accessing Election Systems. (Conducted monthly starting in April 2017)
- ☒ Initiative 3: Conduct a Phishing Campaign Assessment. Contact ncciccustomerservice@hhs.dhs.gov and reference "Maryland Phishing Campaign Assessment" to obtain this service free through DHS. (Completed March 2018)
- ☒ Initiative 4: Install Alert Sensor to continuously monitor network traffic for critical election systems. (Completed May 2018)
- ☒ Initiative 4: Register for the Elections Infrastructure Information Sharing and Analysis Center (E-ISAC) at eism.eisc.org/enr-isac-registration. (Completed July 2018)
- ☒ Initiative 5: Hold Statewide Table Top Training exercise with Local Boards of Election. (Completed August 2018)
- ☐ Initiative 7: Implement two-factor authentication requirement for users to access voter registration database. (Target Completion: October 2018)

DEVELOPED BY THE MARYLAND STATE BOARD OF ELECTIONS
WITH SUPPORT FROM THE U.S. DEPARTMENT OF HOMELAND SECURITY -- ELECTION TASK FORCE

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How do you define ?

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Early Voting

- Done at designated polling places.
- Starts the 2nd Thursday before Election Day through the Thursday before Election Day.
- Hours are 10am - 8pm each day the site is open for Primary Election, 8am – 8pm for the General Election.

Election Day Voting

- Occurs at the voter's assigned polling place.
- Hours are 7am - 8pm.

Did you know... Election (Same) Day voter registration now can be done at polling places? This will help get young voters to the polls! <https://www.nytimes.com/2019/06/26/opinion/graphics-an-excitingly-simple-solution-to-youth-turnout-for-the-primaries-and-beyond.html>

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Absentee Ballot

- Voter requests before an election to receive a ballot by mail, fax, or email.
- MD is a 'no reason required' state – no reason is required to receive an Absentee Ballot, so you can vote this way instead of having to go to the polling place for convenience only, if you want.
- Voter returns the ballot by mail only, after ensuring he/she has signed the enclosed oath.
- Deadlines and other info are available at <https://elections.maryland.gov/voting/absentee.html>.
- Voters can put their Absentee Ballots in a locked box at Early Voting sites.

Did you know...

If you print out the ballot on your home printer, the Board of Elections will recreate the ballot onto an official ballot so it will be machine readable.

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Question: What is a Provisional Ballot?

Answer: When a potential voter's eligibility to vote cannot be proven at the polls on Election Day, election officials offer the voter a Provisional Ballot.

More on Provisional Ballots (and much else) is available at
[https://ballotpedia.org/State by State Provisional Ballot Laws](https://ballotpedia.org/State_by_State_Provisional_Ballot_Laws)
and at the MD Board of Elections website:
https://elections.maryland.gov/voting/provisional_voting.html

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Did you know...

In Maryland, a provisional ballot is rejected when:

- The voter is determined not to be qualified;
- The voter cast more than one ballot for the same election;
- The voter failed to sign the oath on the provisional ballot application;
- The local board determines that a provisional ballot was intentionally marked with an identifying mark that is clearly evident and placed on the ballot for the purpose of identifying the ballot; or
- If the intent of the voter with respect to a particular contest is not clearly demonstrated, the local board shall reject only the vote for that contest.

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Ideal Ballot Auditing Process

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Ideal Ballot Auditing Process:

- Uses data verification methodologies
- Catches errors and fraud
 - Ballot tabulation errors
 - Intentional online fraud
 - Intentional paper ballot fraud
- Extremely fast and efficient (e.g. election night)
- Transparent and verifiable by the public (election night)
- Provides confidence in vote count

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Data Verification

- Double entry (voters signing in = votes cast = ballots used < ballots provided)
 - Anomalies analysis.
 - Precincts that report unexpected results (turnout, preferences) should be further analyzed.
 - Make data available by precinct so stakeholders can verify it.
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- ✓ Verification is the rigorous attempt to find problems.
 - ✓ Validation is the absence of problems after a satisfactory attempt to find them.
 - ✓ Without granular data, verification is impossible.

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How could the election results be changed?

Problem	Detection
Change electronic results in certain precincts by a lot	Investigate anomalies
Change electronic results in most precincts by a little	Random sampling
Tamper with paper ballots (add ballots, delete, exchange)	Compare paper to electronic
Suppress voter turnout in certain precincts or counties	Investigate anomalies
Fail to count a portion of vote in certain precincts	Investigate anomalies

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Maryland State Board of Elections (SBE)
Ballot Audit Plan –

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Maryland SBE Ballot Audit Plan – Automated Software Tabulation Audit

- Maryland uses the software product “ClearAudit” to perform independent post-election tabulation audits. “ClearAudit” is produced by the Boston-based company “Clear Ballot.”
- An independent, automated audit relies solely on the use of independent software to tabulate ballot images. Election officials compare the results from the independent tabulations to the results from the voting system. Any variances between the two tabulations are easily identified and resolved.
- Following the 2018 General Election, the SBE conducted an automated software ballot tabulation audit of 100% of the ballot images, while each local board of elections conducted a manual ballot tabulation audit of a sample of ballots.

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The Use of Ballot Images:

- Allows elections officials to maximize the technological functions of the new voting system while minimizing human error and eliminating chain of custody issues by using securely stored ballot images, rather than voted paper ballots; and
- Removes the need for election officials to physically handle or count voted ballots unless a petition for recount or other judicial challenge is granted.

See: http://mgaleg.maryland.gov/2018RS/chapters_noln/Ch_523_hb1278E.pdf for the law governing post-election tabulation audits.

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Maryland SBE Ballot Audit Plan - Post-Election Manual Ballot Tabulation Audit

The post-election manual ballot tabulation audit requires an audit of:

- At least 2% of precincts statewide, including at least 1 randomly selected precinct in each county and the remainder of precincts to be chosen by the SBE; and
- A number of votes equal to at least 1% of the statewide total in the previous comparable general election-of early votes, absentee votes, and provisional votes, including a minimum number in each county, as set by SBE.
- For the 2018 General Election, SBE set 15 votes as the minimum number of absentee ballots and provisional ballots for some counties.

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Campaign Finance

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Campaign Finance

To obtain information on campaign finance in Maryland, google “Maryland State Board of Elections” or go to: https://www.elections.maryland.gov/campaign_finance/index.html.

- From this website, you can review the information campaign committees provide, view filed campaign finance reports, and search for committees’ contributions and expenditures.
- Note – Political committees do not have to file detailed reports, if they don’t receive contributions or make expenditures in excess of \$1000.00
- In addition, the reporting schedule is posted on this website; plus, you can find how much party committees are allowed to contribute.

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Campaign Finance (Continued)

The Campaign Finance section of the Maryland State Board of Elections website also explains:

- How public campaign funding for governor and lieutenant governor candidates works; and
- That lobbyists and people doing business with the state government must file a disclosure of contributions every six months.

This link: <https://www.howardcountymd.gov/Departments/Finance/Citizens-Election-Fund> explains how to make contributions to County Executive and Council candidates who choose to participate in the Howard County campaign funding program for those offices.

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Questions?

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Back-Up Slides

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Did you know...

- Prior to every election, the local board of elections must perform an accessibility survey on every new early voting center, new polling place or any existing polling place that was recently renovated.
- The survey the board uses mirrors the American with Disabilities Act (ADA) requirements and the checklist suggested by the Department of Justice. The survey may be found at: <https://www.ada.gov/votingchecklist.htm>.
- The areas covered in the board's evaluation include, but are not limited to, voter accessibility inside and outside the polling place, polling place signage, and voting procedures, e.g. check-in process, provisional voting, and same day registration, etc.



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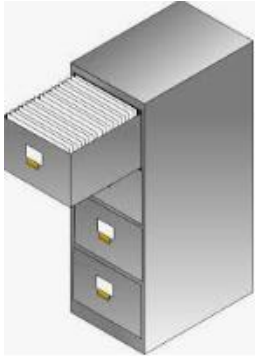
Did you know...



- Prior to every election, the Maryland State Board of Elections (SBE) estimates how many ballots are needed for each early voting center and election day precinct. This estimate is based on historical turnout data and the estimated turnout for the upcoming election.
- The SBE provides these estimates to the local boards of elections, and they work together to identify the appropriate number of ballots to order and deploy for each voting center and election day precinct.
- Regulation 33.10.01.11 of the Code of Maryland Regulations specifies the minimum number of scanners a local board of elections must deploy to an early voting center (2) and an election day precinct (1).
- Since each scanner has an emergency bin to store securely voted ballots if the scanner isn't working as expected, it's not necessary to have back-up scanners at every election day precinct.

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Did you know...



- Ballot retention is called for in the Maryland Code and COMAR (Code of Maryland Regulations), but the Maryland SBE and the Local Election Boards ultimately determine the timing for retaining and disposing of materials.
- Currently the guidelines call for all paper ballots, paper or machine read, including absentee ballots to be retained for 22 months, and then destroyed.
- Campaign financing and candidacy records are retained for 4 years from the date of the election then sent to the State Archives for permanent retention.
- The complete records and retention and disposal schedule for the Maryland SBE may be found on the Maryland State Archives website (Guide to Government Records).

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Did you know...

... that the Maryland SBE and HoCo Board of Elections have an active community outreach effort? For example:

- The Maryland SBE website at <https://elections.maryland.gov> posts early voting and election day schedules, plus a host of other useful information.
- The HoCo Board of Elections frequently has a table at local fairs and festivals, where voters can register, change their party affiliation, and ask questions.
- The Maryland SBE has a robust social media presence, where messages pertaining to election-related issues are tweeted and posted regularly.

In addition, the Maryland SBE mails a sample ballot to each voter prior to the general election. The sample ballot also explains how voters can change their registration information and request an absentee ballot.