Explainer:
The Journalist's Guide To Election Terminology
Version 5.0

Introduction

With several challenging primary elections behind us, and with COVID-19 cases surging in the summer months, the coronavirus pandemic has upended election planning. This has led to a robust dialogue about how best to ensure a safe and smooth November 2020 general election. In this context, legislators, policy makers and the American public all depend on accurate journalism that uses the right words to describe election practices. For example, are "absentee voting" and "vote-by-mail" different? Is there a difference between an "election system" and a "voting system?" And what is "Early Voting?" Terms like these are just the tip of the iceberg when it comes to explaining the complexities of election administration.

The best starting point to choose words *carefully* comes from the National Institute of Standards and Technology (NIST), which has created a "living glossary"[1] of election terms that will appear in the next iteration of the federal *Voluntary Voting System Guidelines* (VVSG). Because the glossary is long, the purpose of this Explainer is to provide a "guided tour" of only selected terms, to help journalists (and the general public) understand and use the right words to report on elections in this critical Presidential Election year. This form of public benefit education is right in line with the **TrustTheVote Project's** mission to defend democracy through greater election security and voter engagement.

Frequently Asked Questions

1. What's the difference between "election systems" vs. "voting systems"?

One of the most fundamental questions in any discussion of election technology is, "*What exactly are the kinds of technology components we're talking about?*" Different functions get classified in different ways. Are we talking about voter registration systems? Voting machines? Computers used to count the votes? Websites used to report election results? Most of the distinctions between these terms rest upon the difference between "voting systems," (which is a specific term), and "election systems" (which is more general).

The Issue

The critical differences between "voting systems"[1] and "election systems"[2] depend on two basic questions: 1) is the system used *to cast and count ballots* and 2) does the system *rely* on public telecommunication networks to do its job?

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[1]   The NIST glossary is located here: https://pages.nist.gov/ElectionGlossary/

Takeaways

- Systems that are used to *mark, cast, and count* **ballots** are "voting systems."

- Technology used for functions *other than actually casting ballots*, such as voter registration, voter check-in, electronic pollbooks,[3] and web-based election results reporting[4] (but *not* counting of ballots) are called "election systems" (and not "voting machines").

- "Voting systems" are typically "air-gapped," and are usually (but not always) not connected to public telecommunications structures; in contrast, if you're talking about a system that stores data "in the cloud," it's likely an "elections system."

- Because voting systems and elections systems both rely on technology, both are vulnerable to security threats; the nature of those vulnerabilities may differ; however, due to their different operating environments.

2. What are the different types of voting?

Depending on the state in the U.S. in which voters are registered, they cast their ballots in different ways – and these are changing, due to COVID-19. In some states, most voters have historically voted in-person on Election Day, for example; in other states, voters may have a choice to vote before Election Day, over a period of multiple days, at their convenience; and recently, many states have expanded access to by-mail voting, to reduce in-person volumes.

The Issue

In the United States, by constitutional design, elections are a local — states' — matter. Thus, federal impact is constrained by two Articles and 7 Amendments to the U.S. Constitution (i.e., Art.1 §4, Art.2 §1, and the 10th, 12th, 15th, 17th, 19th, 23rd, & 26th amendments).

Therefore, the U.S.'s federalist approach to election administration leaves the implementation and operational details of diverse voting methods to each of the respective states, in accordance with each state's laws and administrative rules. As a result, voting practices vary from state to state – but there are some common classifications for different types of voting.

Takeaways

- "Early Voting"[5] is a form of voting that occurs in advance of Election Day, to enhance voter convenience. Although strict definitions vary from state to state, "Early Voting" could include both "Absentee voting" and "Early Voting in-person."

- "Election Day"[6] is the last date on which voters may cast a ballot. In most states, Election Day voting has typically taken place at brick-and-mortar polling places, such as precincts or Vote Centers – but that is likely to change in 2020, due to a surge in by-mail voting.

- In most states, "Absentee"[7] voting is conducted by-mail, for voters who have a valid reason (as defined by state rules) that prevents them from being able to vote in-person on Election Day – including, most recently, COVID-19 concerns. In some states, "Absentee" voting can also take place "in-person." In such cases, this is similar to what other states call "Early Voting," where voters can choose to vote on one of several days prior to Election Day.

3. What are the different ways voters can cast ballots?

In addition to the distinctions between Absentee, Early, and Election Day voting, diverse election practices in the various states mean that the exact manner or location at which voters cast ballots also varies.

The Issue

Depending on the state, voters cast ballots by-mail or in-person, and voters may cast ballots in small precinct locations, or at consolidated "voting supercenters," which can support many ballot styles at one location.

Takeaways

- Early Voting Centers[8] support voting in advance of Election Day, and these voting "supercenters" have "ballot styles" (see Part 6 below) for all voters in the jurisdiction. Although the number of Early Voting Centers is typically fewer than traditional small precincts, voters are free to vote at *any* early Voting Center, and are not restricted to voting only in one specific precinct location (which provides greater convenience over the multi-day Early Voting period).

- Precinct count[9] voting is the most traditional form of voting, which occurs in smaller "brick-and-mortar" (physical) polling places in an election jurisdiction. Typical precinct polling places may include public schools, senior centers, City Hall, public libraries, and similar facilities. Precinct count voting is usually associated with in-person Election Day voting. In response to significant poll worker attrition and polling place reductions associated with COVID-19, many jurisdictions have greatly reduced and/or consolidated in-person precinct locations.

- Vote Centers,[10] like precinct count locations, operate on Election Day, but they are similar to Early Voting "supercenters" because they consolidate all ballot styles for all voters at each Vote Center location. Again, the intent is to enhance voter convenience on Election Day by not restricting each voter to only one specific precinct location. During the pandemic, Vote Centers have also been adopted due to poll worker shortages.

- By-mail voting takes different forms. Most states distribute blank ballots to registered voters only after voters submit an absentee ballot request. A few states (CO, HI, OR, UT, WA) are "all" vote-by-mail,[11] which means that every registered voter receives an Official Ballot through the mail – but this is not the norm. With by-mail voting, voters mark their ballots at home, and then return ballots through the postal service, or to drop-off locations.

4. What kinds of voting technology are currently in use?

Diverse voting practices across the states are implemented through different types of technology that shape the voting experience in each state or local jurisdiction. Some states have a "uniform voting system," which means that the state administers the same type of technology for all voters statewide, while other states allow individual counties, townships or local jurisdictions to choose their own technology (in accordance with state-issued approvals); this can lead to a "mosaic" of different kinds of voting equipment in a single state.

The Issue

Voting technologies typically store voter choices in one of two ways, which may also be combined: through paper records, or electronically, in voting system memory. Also, the configuration of voting devices that voters use to cast ballots depends on back-office hardware and software (typically personal computers) that are managed by the state or local jurisdiction.

Takeaways

- Optical or digital scan devices[12] are used to process paper ballots that store voter choices. Paper records typically include either *hand-marked* paper ballots, or *machine-marked* paper ballots printed by a voting device. The paper records are inserted into the scanning device, which has a motorized paper path, to interpret the voter choices and store the votes.
- Ballot marking devices[13] (BMDs) combine an electronic voter interface (typically a touch screen[14]) with a paper printing mechanism. Voters use the electronic interface to mark their choices on an electronic display, and then the device prints a paper record that includes the marked choices. Typically, BMDs do not store any votes, so in order to cast ballots, voters must insert the machine-marked paper records into a separate scanning device.
  - o In most jurisdictions, BMDs are deployed in limited numbers and are equipped with assistive technology features (e.g. buttons and audio) to support voters with disabilities (e.g., those who cannot manually mark a ballot with a pen, due to visual or dexterity impairments; and conversely, in these same jurisdictions, most voters hand-mark their paper ballots with a pen, instead of using BMDs).
  - o In some jurisdictions, BMDs are provided for **all** voters, and in-person voters may not have the option to hand-mark a paper ballot instead.
- Direct recording electronic voting machines (DREs)[15] present ballots on an electronic interface, and they store voter choices directly on the voting device, in memory. Older DRE devices may be paperless, with no independent auditable record of the voter's intended choices. Some DRE devices include a printing module that stores a paper record of the voter's choices, as an additional "audit trail" (though the value of those printers remains a subject of debate).

Regardless of the type of voting technology used, most voting devices depend on a back-office election management system (EMS),[16] which runs election-specific software on commercial-off-the-shelf computers. Typically, the election jurisdiction or its voting system vendor uses the EMS to create the election, including all of the ballot information needed, as well as settings to configure the voting devices, and software to count (tabulate) the votes.

5. What are the different parts of a ballot?

The contests and options that voters see on their particular ballots are determined by the voters' residential addresses and their partisan affiliation in a primary. The residential address sits in the midst of overlapping jurisdiction boundaries that determine federal, state and local races, and those collectively determine what the voters' ballots look like.

The Issue

Cross-cutting boundaries for federal, state and local offices (such as U.S Representative districts, supervisorial districts, school districts, and city limits) mean that even in the same jurisdiction, voters' ballots may look different from each other, as they may include different contests or measures. Despite these differences, ballots across ballot styles still include some common design elements, as well.

Takeaways

- Ballot styles[17] are determined by a voter's residential address (i.e., geospatial location). Voters in the same jurisdiction may be separated by district boundaries for different federal or state Representative or judicial districts, for example. When voters request a by-mail ballot or an in-person ballot, their voter registration data (including address information), is used to determine the ballot style that a voter will use to vote.

- Ballot instructions[18] appear on both paper and digital ballots, and they provide voters with information on how to mark a ballot. Ballot instructions typically appear at the top of the ballot. Clear, well-written ballot instructions in plain language are an essential part of helping to ensure that marked ballots reflect the voters' intent.

- A contest[19] is also known as a "race." Each contest on the ballot – such as President, Governor, Judge, or "Measure A" — reflects a decision point for the voter, with associated choices or contest options[20] to mark.

- A ballot measure[21] is a particular type of contest that offers voters the opportunity to approve or reject a public question, or proposition. (For example, "*Should the City be prohibited from requiring contractors to use Project Labor Agreements for City construction projects, except where required by law?*")

- Provisional ballots[22] are issued to voters when there are questions about the voters' eligibility that must be resolved before it can be determined whether to count the vote or not. As described above, voters' eligibility to receive a ballot to vote is dependent on their residential address and their registration status. Occasionally, recordkeeping issues may result in uncertainty about whether voters are entitled to have their ballot counted (e.g. if

they have moved, or if their registration status has changed). If a voter is issued a provisional ballot, it will be excluded from the tabulated totals until such time (after the election) that the jurisdiction can conduct additional research on the details of the voter's situation and make a determination of eligibility. If the voter is eligible to vote, the vote will be added to the tabulated totals.

6. What are "usability" and "accessibility"?

In plain language, layperson's terms, usability can be thought of as a measure of how "easy" and "common-sense" is it to use a voting device for most voters, and "accessibility" describes features in the voting device that allow voters with disabilities to vote in a private, independent manner. The Help America Vote Act (HAVA) of 2002 led to the creation of federal standards that require voting machines to be usable, as well as requirements that accessible machines be made available for voters with disabilities.

The Issue

Usability and accessibility are critical to supporting voters' ability to cast a ballot in the manner that voters intend. If a voting device is confusing, or if it increases the likelihood of mistakes, then it is less usable. Similarly, if a voting device makes it difficult for a voter with disabilities to cast a ballot privately and independently, then it cannot be said to be accessible.

Takeaways

- Usability[23] is a measure of the effectiveness, efficiency, and satisfaction with which voters can mark and cast ballots in the manner intended. If voters can mark their choices without errors, relatively quickly, and in a way that gives them confidence that the vote will be counted as they intend, then the voting method can be said to be usable.

- Accessibility[24] describes features that support voters with disabilities in marking and casting their ballots privately and independently. Accessible voting machines are typically designed to serve the needs of voters who are blind or visually impaired, or who have mobility or dexterity impairments. Accessible voting machines may have audio ballot capabilities (through headphones, for voters who cannot see), or physical buttons as an alternative to touchscreens (in case voters cannot reach the screen or easily use their hands, for example).

7. After voting, how do we know that the results are correct?

Once voting is complete, there are a variety of methods to ensure that the reported results are accurate. If the margin of victory is very close, a "recount" may be necessary to ensure that the correct winner is called. Furthermore, In some cases, even in the absence of a close race, an "audit" or "double-check" of the reported results is performed to ensure the integrity of the results. While recounts and audits are both used to ensure the integrity of the reported outcomes, they are not the same thing.

The Issue

All states have requirements that specify when recounts are necessary, and the manner in which they must be conducted. Also, an increasing number of states (though still far from a majority) are introducing legislation or administrative rules to require post-election audits. Increased focus on audits in particular is an illustration of the heightened threat environment in which election technology is deployed in the U.S.

Takeaways

- Tabulation[25] is the process of totaling up votes on cast ballots, from all the various voting types in an election (i.e., Absentee, Early Voting, Election Day).

- A post-election audit[26] is a systematic process by which independent parties compare results produced by voting technology components with human-readable (paper) records, in order to validate the accuracy of reported results.

- A risk-limiting audit[27] is a specific method for post-election audits that compares a limited -- but statistically significant -- number of ballots with recorded cast votes, in order to allow the correction of a reported outcome if the reported outcome is wrong.

- The audit trail[28] is a record of information (e.g. electronic and/or paper records) that allow auditors to review and reconstruct a sequence of events or "transactions" in the voting system, over the course of the election. The audit trail is like a "ledger" of what happened on the voting system components.

- The canvass[29] is the post-election process of reviewing and validating all election returns before certifying the official results.

8. What are the important technology terms or phrases?

Despite the diverse voting methods and voting technology described above, most election systems rely on technology to some degree, and there are important technology terms that are relevant to discussions of election security in particular.

The Issue

Newer, modern commercial voting systems include features that present both benefits and potential liabilities for system security.

Vulnerabilities may be *especially* high in older legacy voting systems, some of which are almost two decades old.

Even those features that enhance security should not be viewed as a panacea. All technology is potentially vulnerable, and a disciplined security plan requires a combination of the right procedures, personnel, and technology.

Takeaways

- **"Air gap"**[30] refers to a method of maintaining a physical separation between different parts of election systems that need to exchange data. Typically, "air gaps" are implemented to ensure that security-critical components are not connected to external networks, or to the Internet. For example, "election management systems" that are used in the back office to create elections and configure equipment are typically "air-gapped;" similarly, voting systems are typically "air gapped" from network-connected infrastructure such as electronic poll books and voter-registration infrastructure.

- **Access control**[31] describes security features that are designed to protect software and/or hardware from being used by unauthorized personnel. Passwords are an example of software access control, and keyed locks or tamper-evident seals provide physical access control for voting devices. Most voting technology has *multiple* layers of access control.

- **Authentication**[32] is a method of verifying the identity of a user, to ensure that the user is authorized to use the technology. A username is an example of an authentication feature.

- **Barcodes**[33] and **quick response (QR) codes**[34] are features used to encode data for purposes of automated (machine-readable) processing. The use of barcodes and QR codes to store voter choices on paper records from ballot-marking devices has become especially controversial; because humans cannot directly read or verify their choices in a barcode or a QR code, some believe that BMD ballots with barcodes or QR codes do not meet the threshold of voter-verifiability.

- **"Commercial-off-the-shelf"** (or, COTS)[35] is a term that describes the use of technology components that are available for purchase by manufacturers (without needing to produce the component themselves) for integration into other systems. For example, voting system vendors typically implement COTS personal computers to support back-office election management functions; as a system integrator, the vendor configures the COTS computers with proprietary voting system software to produce single-purpose voting system workstations. Supply chain vulnerabilities are of particular concern with COTS technology.

- **Penetration testing** or "pen testing"[36] is the process of allowing security specialists to examine a technology system in order to identify vulnerabilities. Although there is an increasing need for rigorous pen testing of voting systems in the current threat environment, it is relatively uncommon. The federal certification process does not require pen testing; most states do not require pen testing, either (although some exceptional ones, such as California, do); and voting system vendors have resisted making their systems available for pen testing unless absolutely necessary (for certification, for example).

- Malware[37] is malicious software designed to infiltrate, damage and/or adversely impact operation of a device or system. While there are several types of malware and a majority rely on eMail to be introduced (starting as buried payload in the message), for purposes of election administration technology, malware injection is not only by way of a device that is at some point connected to an infected network; malware can easily be introduced by removable media (e.g., a USB data stick).

- Multi-factor authentication (MFA)[38] is a method of requiring multiple layers of authentication before allowing users to execute critical system functions. Typically, multi-factor authentication requires "something a user *has*" (such as a physical object) and "something a user *knows*" (such as a password). For example, mobile banking apps that send a "security code" to a smartphone (something you have), in addition to requiring a login ID and password (something you know) use MFA. In voting technology, MFA usually relies on a physical "token" (sometimes similar in form to a USB stick), plus an appropriate password, to execute critical system functions such as defining an election, configuring voting equipment, or tabulating votes on Election Night.

- Logic and accuracy testing ("L & A," or "LAT" testing)[39] is a process that allows election officials to test the operation of a voting system with a specified election definition, to ensure that the system presents ballot styles and records votes accurately. L & A tests are typically required by law to be public events, and they take place before the start of the election. To conduct an L & A test, election officials process test ballots with known voting patterns, which allows officials to calculate the anticipated outcomes from the tabulation system in advance. At the conclusion of the test, the manual calculations of the expected outcomes are compared with the system's reported outcomes, to ensure that the system logic is accurate.

Afterword

This is a continuously expanding and improving Guide. For ease and convenience, an online version is forthcoming. Additional terms and phrases, and frequently asked questions will be added as you, the reader, provide us the feedback we need to maintain and enhance the value of this reference.

The Journalist's Guide to Election Terminology (aka the "J-Get") is made possible by the on-going support of philanthropists passionate about democracy—which may even include you. **Eddie Perez**, the Institute's Global Director of Technology and Open Standards is the primary author of this publication. He brings over sixteen years of industry experience to bear on the work of the Institute to increase confidence in elections and their outcomes, in order to preserve the operational continuity of democracy as a matter of national security.

Please send us your comments, questions, and suggestions to j-get@osetfoundation.org.

Reference NIST Definitions

[1] https://pages.nist.gov/ElectionGlossary/#voting-system

[2] https://pages.nist.gov/ElectionGlossary/#election-system

[3] https://pages.nist.gov/ElectionGlossary/#electronic-poll-book

[4] https://pages.nist.gov/ElectionGlossary/#election-results-reporting-system

[5] https://pages.nist.gov/ElectionGlossary/#early-voting

[6] https://pages.nist.gov/ElectionGlossary/#election-day

[7] https://pages.nist.gov/ElectionGlossary/#absentee-voting

[8] https://pages.nist.gov/ElectionGlossary/#early-voting-center

[9] https://pages.nist.gov/ElectionGlossary/#precinct-count

[10] https://pages.nist.gov/ElectionGlossary/#vote-center

[11] https://pages.nist.gov/ElectionGlossary/#vote-by-mail

[12] https://pages.nist.gov/ElectionGlossary/#optical-scan

[13] https://pages.nist.gov/ElectionGlossary/#ballot-marking-device

[14] https://pages.nist.gov/ElectionGlossary/#touch-screen-voting-machine

[15] https://pages.nist.gov/ElectionGlossary/#direct-recording-electronic-voting-machine

[16] https://pages.nist.gov/ElectionGlossary/#election-management-system

[17] https://pages.nist.gov/ElectionGlossary/#ballot-style

[18] https://pages.nist.gov/ElectionGlossary/#ballot-instructions

[19] https://pages.nist.gov/ElectionGlossary/#contest

[20] https://pages.nist.gov/ElectionGlossary/#contest-option

[21] https://pages.nist.gov/ElectionGlossary/#ballot-measure

[22] https://pages.nist.gov/ElectionGlossary/#provisional-ballot

[23] https://pages.nist.gov/ElectionGlossary/#usability

[24] https://pages.nist.gov/ElectionGlossary/#accessibility

[25] https://pages.nist.gov/ElectionGlossary/#tabulate

[26] https://pages.nist.gov/ElectionGlossary/#post-election-tabulation-audit

[27] https://pages.nist.gov/ElectionGlossary/#risk-limiting-tabulation-audit

[28] https://pages.nist.gov/ElectionGlossary/#audit-trail

[29] https://pages.nist.gov/ElectionGlossary/#canvass

[30] https://pages.nist.gov/ElectionGlossary/#air-gap

[31] https://pages.nist.gov/ElectionGlossary/#access-control

[32] https://pages.nist.gov/ElectionGlossary/#authentication

[33] https://pages.nist.gov/ElectionGlossary/#barcode

[34] https://pages.nist.gov/ElectionGlossary/#quick-response-code

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[36] https://pages.nist.gov/ElectionGlossary/#penetration-testing

[37] https://pages.nist.gov/ElectionGlossary/#malware

[38] https://pages.nist.gov/ElectionGlossary/#multi-factor-authentication

[39] https://pages.nist.gov/ElectionGlossary/#logic-and-accuracy-testing