Secure American Federal Elections (SAFE)
2020 Edition – Requirements

Contents

Voter Registration/Identification

1. All votes are cast utilizing a valid state issued Voter Identification Card (VIC).
    1.1. A valid VIC can be a driver's license or state identification card.
    1.2. A valid VNC is issued with a voter picture and thumbprint, like all driver's licenses.
2. State identification cards are to be free.
    2.1. States are paid a per ID fee by the Federal government.
3. Attaining either a driver's license or state identification card automatically registers the citizen to vote in all elections applicable to the registered address (assuming citizenship, death certificate, etc. checks are positive).
4. For voter identification purposes, each citizen can have only one active voter identification card.
    4.1. Enforcement is executed at the national level.
5. The last identification card registered with the Federal Voter Information Source will be the active Voter Identification Card.
6. Social Security Number or new Voter Identification Number (VIN) is the primary key for all status checks.
7. Voter Identification Card registration/creation must be completed before Election Day.
    7.1. All states will offer extended hours, at least two days per week, year-round, to facilitate citizens that work during normal business hours.
8. VICs never expire and don't need to be updated unless the voter moves.
    8.1. If a driver's license is a citizen's VIC and it is expired, it is still a valid VIC.
9. Positive identification is needed for VIC issuance.
    This should be no different than most states require today.
    <TODO> Research current state requirements </TODO>
    - Minimum Requirements -
    Social Security Card/Number and any one of the following:
    9.1. Birth Certificate
    9.2. Certificate of Citizenship
    9.3. Passport
    9.4. more?
    See Homeless section below for additional services
10. Citizenship status is verified automatically upon VIC registration
11. In special situations, if voters are unable to reach the state agency (Secretary of State in Michigan), Certified Election Officials ([CEO](#)) can be scheduled to go to the citizens; registering/creating their Voter Identification Card. Samples include: nursing homes, hospitals, Native American reservations, individual residences (when unable to travel). All CEO based registrations must be scheduled at least one month before the desired Election Day to guarantee registration in time for that election.
    11.1. The CEO registration deadline is needed to make sure that all desiring registration via CEO can be accommodated.
    11.2. Citizens taking advantage of CEO availability do not create a path for fraud, but they would increase the costs associated with implementing the program.

Homeless Citizens

1. Homeless citizens have the same right to vote as others
2. Being homeless does not remove the need for a valid VIC in order to vote.
3. During the VIC registration process, if the individual is identified as homeless, the address used on the VIC is that of the city center where the citizen spends the majority of his/her time. Typically this would be the local Election Center or closest Post Office.
4. No homeless specific registration or voting enablement is needed beyond what has already been defined in the appropriate sections of this document.
5. Question: Do we offer "lock folder" services at the citizen's local [Election Center](#)? It would be minimal cost and address document storage needs for homeless citizens. Storage would be limited to Birth Certificate, Social Security Card and Voter Identification Card Security could be implemented via facial recognition, fingerprint, more. Signature is required when items are removed (confirming "lock folder inventory"). Receipt is given each time an item is added or removed from the "lock folder".

Certified Election Official (CEO)

1. Must be American citizens
2. Are State employees
3. Specially trained and certified in applicable laws, security, process, avoiding bias and public interactions/addressing issues.
4. Some are full-time (postal workers?); some are part time, for "election season" only.
5. The position carries an elevated level of responsibility.
    5.1. Election fraud is, or becomes, a felony.
        5.1.1. Currently fraud involved with an election containing a US level seat is a felony
        5.1.2. All states should consider the same, if not already in effect
    5.2. By law, Certified Election Officials are guaranteed leave from any other employment on all Election Days and required training/certification camps (?2-3 one day sessions per year)
6. CEOs facilitate centralized and remote services
    6.1. Remote services are to assist citizens that are physically unable to:
        Obtain a Voter Identification Card
        Vote in person
7. All CEO sessions with citizens are recorded; both audio and video
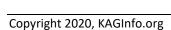8. All CEO equipment and processes match those executed by their Election Center counterparts.

Election Center (EC)

1. Multiple full-time locations in each state, possibly utilizing Post Offices or dedicated Centers if a large enough community.
2. Election Day polling places/Election Centers don't change much, just the technology in use
3. All are staffed by Certified Election Officials

Count Finalization

1. Count Finalization Date is the date by which all ballots must be processed and counts finalized.
2. All votes must be finalized within 72 hours of Election Day poll closing.
   2.1. This three day period is to accommodate:
      2.1.1. Health Deferrals
      2.1.2. Facilitate proper research/processing/counting of all "citizenship status" ballots
      2.1.3. Process all deaths leading up to Election Day
         2.1.3.1. Death Certificate submission requirements are/will be stipulated by law.

Special Voting Needs

Off Site Voting

1. If a voter will be unable to cast his/her ballot on Election Day, an Off Site Voting (OSV) session can be scheduled.
    1.1. OSV is available up to two weeks before Election Day.
    1.2. All OSV sessions must be completed within the 48 hours following poll closure.
    1.3. OSV is intended to be available for special cases only.
    1.4. OSV can be executed up to two weeks in advance of Election Day.
    1.5. OSV may, at the Election Board's discretion, be substituted with transportation to a polling place on Election Day.

Health Deferral

1. If a voter is ill/hospitalized on Election Day and can't or shouldn't visit a polling location, he/she can call their Election Board to execute a Health Deferral.
    1.1. A Health Deferral gives the voter an extension to the voting window.
        1.1.1. The voter must cast his/her ballot within 48 hours of Election Day pole closing.
        1.1.2. Proof of illness will be required before casting a ballot under a Health Deferral.
        1.1.3. All Health Deferrals that can't be executed within the 48 hour deadline, can be accommodated via an OSV where appropriate (hospital, etc.).

Active Military

1. Active duty military will follow all voting rules and have the same voting equipment available wherever in the world they may be.
2. We need to work out what happens during wartime and/or conflict.

Out of Precinct Voting

1. Paper voting packets will be available for those voters that will be outside their precinct during the entire two week "voting season".
    1.1. Proof of travel/living will be required before the voting packet can be issued and delivered.
    1.2. All ballots must be received by 11:59:59pm of the day before Election Day.
    1.3. The volume should be minimal in the grand scheme of things.

Ballot Design and Processes

1. All ballots are cast on paper
    1.1. All mailed ballots must include the thumbprint of the voter.
    1.2. All in-person ballot "casting" takes a picture of the voter as the ballot is cast.
    1.3. Any computer based voting generates/prints a ballot then cast/scanned.
    1.4. The way ballots are distributed and prepared can vary as far as this section of SAFE is concerned.
    1.5. Mailed ballots, if allowed, require addition logic/processes for online verification of cast votes.
2. Straight-ticket voting is not an option for an election if doing so would cause a calculated distribution of votes. SAFE can not and will not determine where to cast a citizen's vote.
    2.1. Elections eligible for straight-ticket voting must be segregated and communicated to voters.
    2.2. If the voter selects straight-ticket and individual candidates, individual candidate votes override the straight-ticket selection for that election.
    2.3. SAFE will warn voters if straight-ticket is selected and any straight-ticket ineligible elections aren't voted.
3. All ballots are "cast" by scanning them into the SAFE system.
    3.1. Following a successful casting, paper ballots are retained and stored for audit purposes.
4. All cast ballots are counted from scanned images, no matter how the ballot was populated.
    4.1. Write-in entries are keyed by two processors. If those values agree the value is accepted. If not, an election official enters the appropriate value, digitally signing the value.
    4.2. Ballot images are transmitted to the State Election Service and retained for auditing purposes.
5. Processing/counting ballot images utilizes forms recognition (image processing), barcode recognition and OCR(?) to process/count the ballots.
    5.1. Index marks are included at the top left, bottom left and bottom right corners.
    5.2. Index marks are utilized for orientation, scaling and skew correction.
    5.3. The form number, identifying that ballot format:
        5.3.1. Is contained in a barcode located next to the bottom right corner page index mark.
        5.3.2. Is included as human readable text at the top of the ballot.
    5.4. The ballot ID, unique to each ballot:
        5.4.1. Is a barcode at the bottom left of the ballot
        5.4.2. Is included as human readable text at the top of the ballot.
6. Defining ballots in the SAFE system
    6.1. The Form Number, unique to the ballot, is added
    6.2. The distance between the top and bottom index marks is added
    6.3. The distance between the left and right index marks is added
    6.4. Voting selection bubble diameter is added
    6.5. Party/straight-ticket voting selections are identified, if applicable
        6.5.1. Each party is added, defining the x,y measurements to center of voting bubble using the index marks as a reference
    6.6. Each election on the ballot is defined:
        6.6.1. Election ID
        6.6.2. Candidates are added
            6.6.2.1. Predefined selections are added by identifying the candidate and x,y measurements to center of voting bubble using the index marks as a reference
            6.6.2.2. Write-in areas are defined by identifying the x,y measurements to the bottom left corner of the area, using the index marks as a reference. Then defining the height and width of the write-in area.

6.6.2.3. Proposal selections are defined as "candidates" (with no party designation)

Formal Audit (secure): Ballot Scans and Counts

1. Each ballot/ballot ID is issued to a registered voter
2. Ballots are tied to voter by Registration ID at assignment to voter
   2.1. Registration ID references National VoterID which can be used to retrieve SSN
       Citizenship can be verified using SSN
   2.2. Paper ballots can be compared to their images
   2.3. Images can be manually counted to verify system accuracy
   2.4. Anyone can audit counts, if desired
       2.4.1. All scanned images are available for review/download.
           2.4.1.1. Ballot ID and BallotId barcode are redacted for citizen review
           2.4.1.2. BallotId and BallotId barcode are visible during a formal audit
           2.4.1.3. Redacted images are generated once, on first retrieval.
       2.4.2. Ballots are searchable by state, precinct and batch
       2.4.3. If desired, all ballots for a precinct could be manually counted and counts compared against State Election data.
3. Scanning a ballot generates a ballot receipt containing the BallotID, ballot selections and a cryptographically strong, BallotPIN.
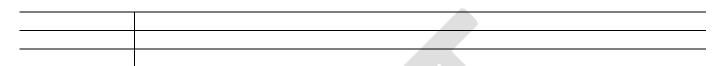   3.1. The BallotId and BallotPIN can be used to verify selections online.
       3.1.1. 20 unsuccessful attempts to access a ballot for verification, locks the ballot
           3.1.1.1. A locked ballot can be unlocked by contacting your precinct's <SUPPORT DESK?>. After proofing <TODO - define> the voter, the BallotPIN can be reset (generating new)

Infrastructure/Security

See Security specific documentation:

Definitions

Version History

Date	Version	Description
12/02/2020	2020.R.0.3	• Draft version 3
11/29/2020	2020.R.0.2	• Draft version 2
11/28/2020	2020.R.0.1	• Initial draft revision