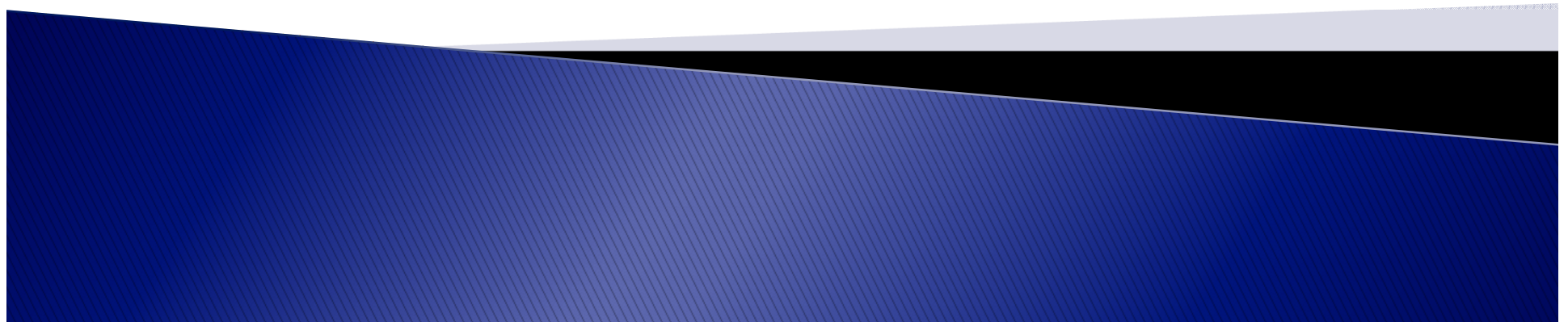




EAC Testing and Certification Program - 1335 East West Highway, Silver Spring, MD 20910

VVSG 2.0

Scope Discussion



Help America Vote Act

Definition of Voting System

- ▶ Section 301 (b) (1) defines voting system as:
 - (1) the total combination of mechanical, electromechanical, or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment) that is used—
 - (A) to define ballots;
 - (B) to cast and count votes;
 - (C) to report or display election results; and
 - (D) to maintain and produce any audit trail information



Background

Functional Based Requirements

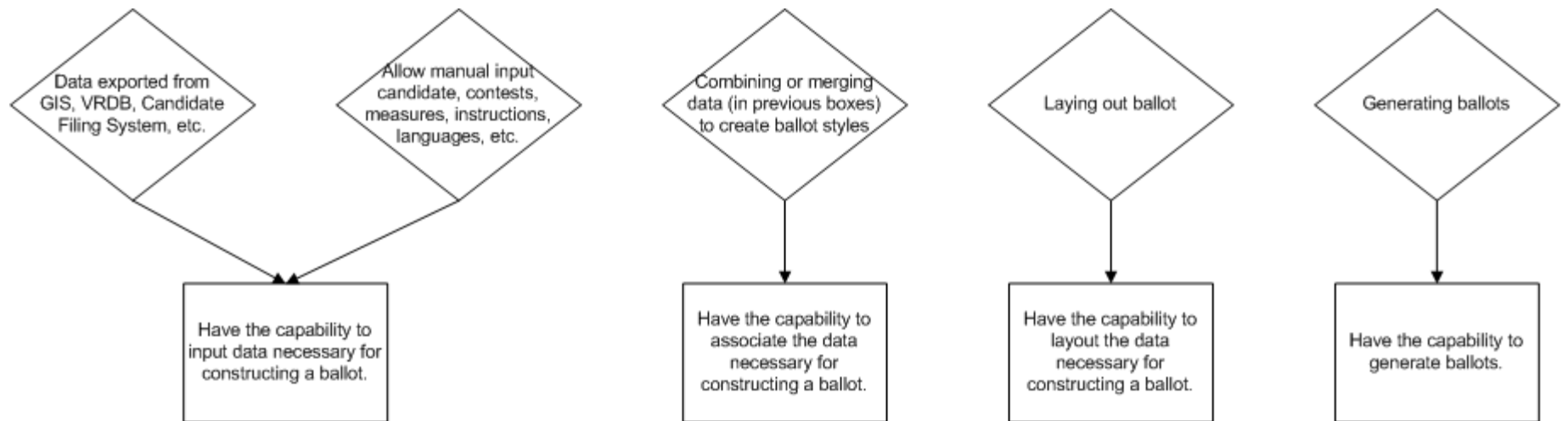
- ▶ 2007 TGDC recommended guidelines – looked at classifications structure for voting systems
- ▶ Participation in Working Groups showed focus on process & inputs/outputs
 - Election Working Groups' Process Model
- ▶ VVSG 2.0 Project Charter
 - Specifically Objectives for VVSG 2.0

Questions to TGDC

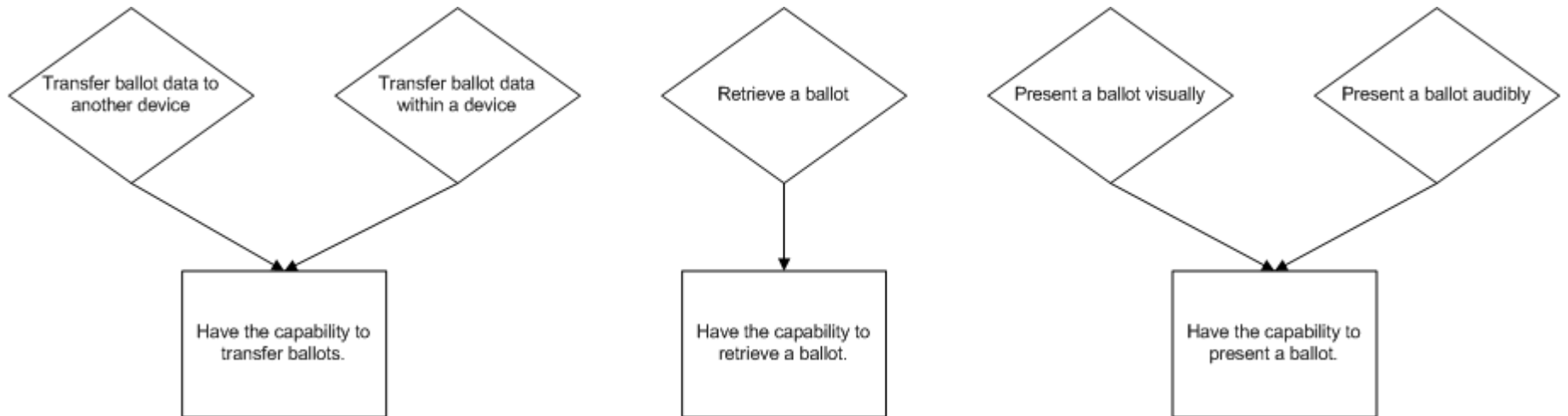
- ▶ EAC sent a list of 30 questions regarding functions and methods/modes for fulfilling those functions.
- ▶ EAC received feedback and questions from members and groups represented.
- ▶ Determined that methods/modes were too low-level. Which led to the \$1M question:

What are the core functions?

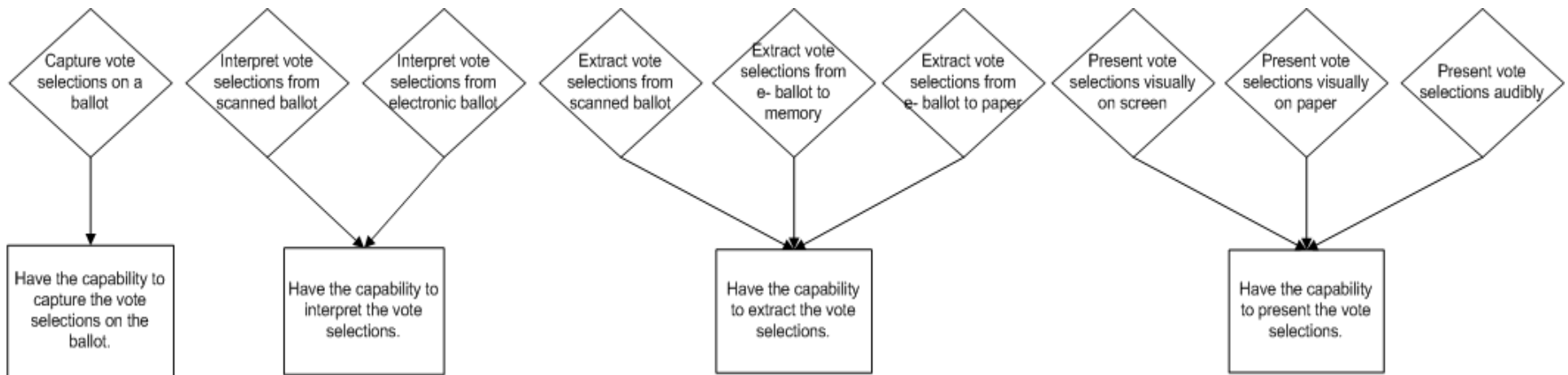
Ballot Construct/Development



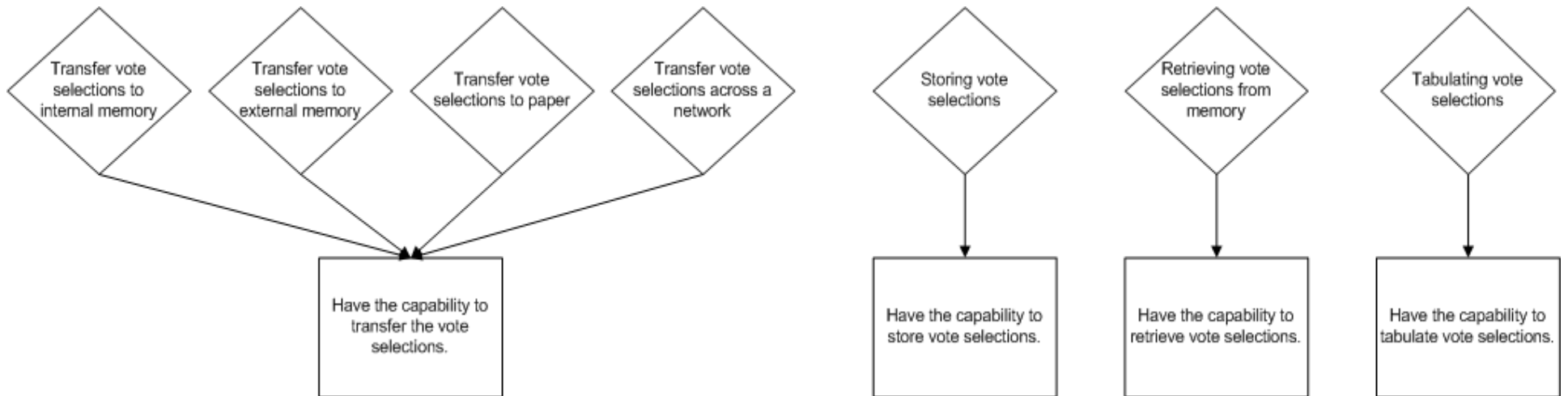
Ballot Display



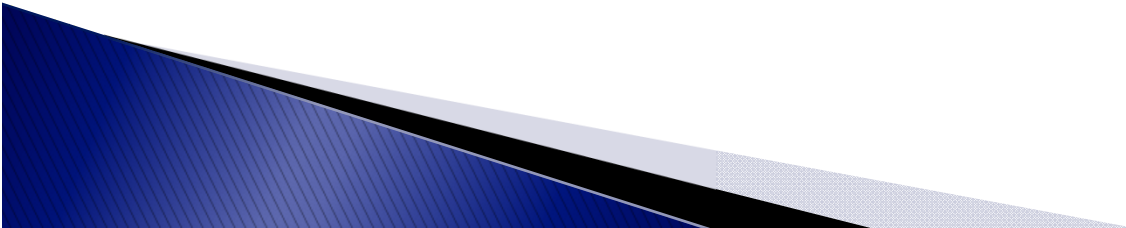
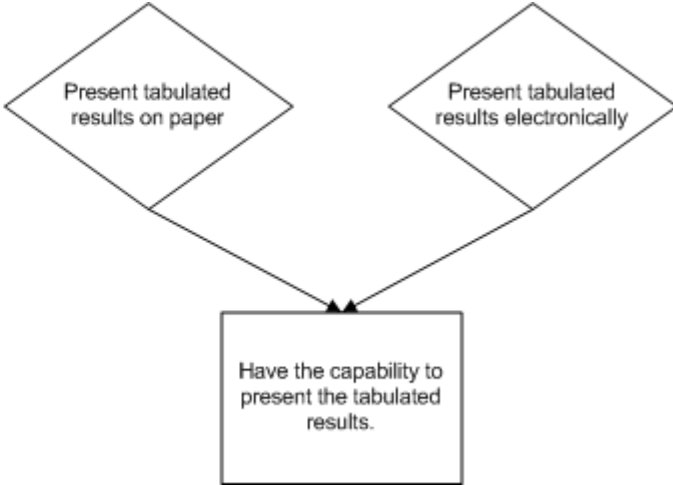
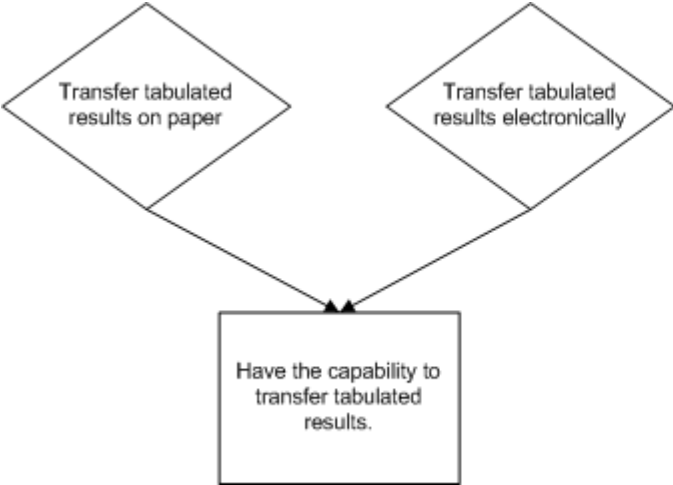
Vote Selection/CVR Creation



Tally Process



Reporting Results



Voting Systems

17 Core Functions

- ▶ Input Data for Ballot Construct
- ▶ Associate Data for Ballot Construct
- ▶ Ballot Layout
- ▶ Ballot Generation
- ▶ Ballot Transfer
- ▶ Ballot Retrieval
- ▶ Ballot Presentation
- ▶ Capture Vote Selections
- ▶ Interpret Vote Selections
- ▶ Extract Vote Selections
- ▶ Present Vote Selections
- ▶ Transfer Vote Selections
- ▶ Store Vote Selections
- ▶ Retrieve Vote Selections
- ▶ Tabulate Vote Selections
- ▶ Transfer Results
- ▶ Present Results

Help America Vote Act

Definition of Voting System

- ▶ Section 301 (b) (1) defines voting system as:
 - (1) the total combination of mechanical, electromechanical, or electronic equipment (including the software, firmware, and documentation required to program, control, and support the equipment) that is used—
 - (A) to define ballots;
 - (B) to cast and count votes;
 - (C) to report or display election results; and
 - (D) to maintain and produce any audit trail information

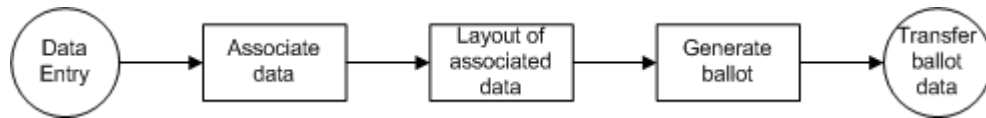
Device-Based Model

(Current VVSGs)

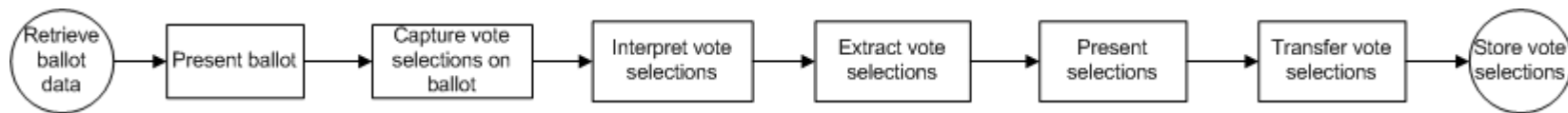
- ▶ §301 (b) (1) (A): to define ballots
 - Device: Election Management System
- ▶ §301 (b) (1) (B): to cast and count votes
 - Devices: Ballot Marking Device, DRE & Scanners
- ▶ §301 (b) (1) (C): to report or display election results
 - Device: Election Management System
- ▶ §301 (b) (1) (D): to maintain and produce any audit trail information
 - Devices: ALL

Device-Based Model (By Functions)

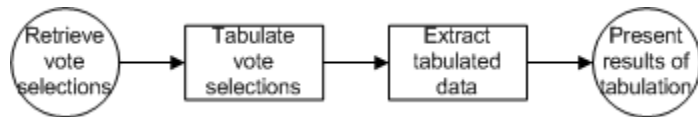
EMS – to define ballots [§301 (b) (1) (A)]:



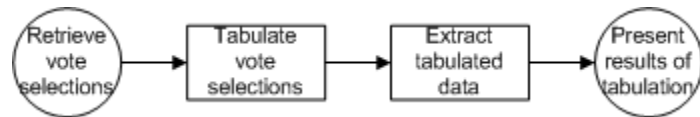
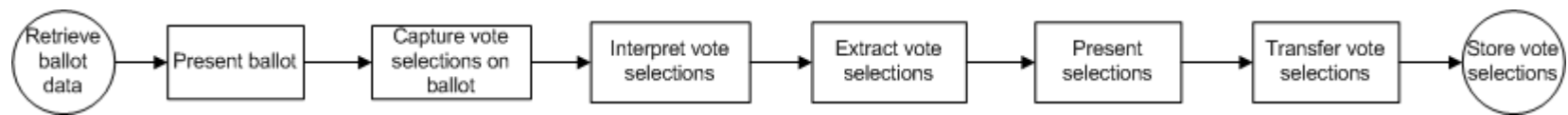
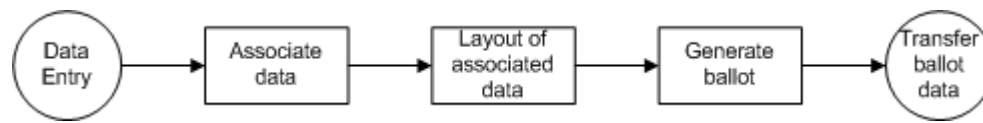
EBM & scanner or DRE – to cast and count votes [§301 (b) (1) (B)]:



EMS – to count and report/display results [§301 (b) (1) (C)]:



VVSG 2.0 Voting System Model



VVSG 2.0 Objectives

Project Charter

- ▶ To assess the ability of the election systems to correctly execute secure, usable and accessible elections in order to provide assurance to voters that the election is an accurate reflection of the voters' will.
- ▶ To enable, not obstruct or impede, innovation and needed response to changing statutes, rules, jurisdictional and voters' needs.
- ▶ To create a set of implementable guidelines that allows effective deployment of systems by jurisdictions constrained by election calendars, schedules and budgetary restrictions.

VVSG 2.0 Objectives (continued)

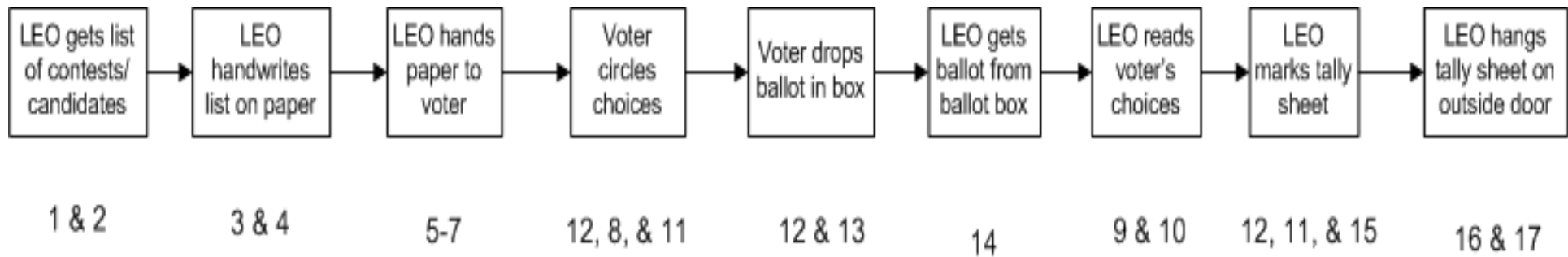
Project Charter

- ▶ To facilitate the interoperability of election systems.
- ▶ To facilitate an open and transparent process that allows voters and election jurisdictions to assess the performance and capability of the election systems.
- ▶ To provide a set of testable requirements that a jurisdiction can understand and use to evaluate the performance of election systems and to procure new systems.

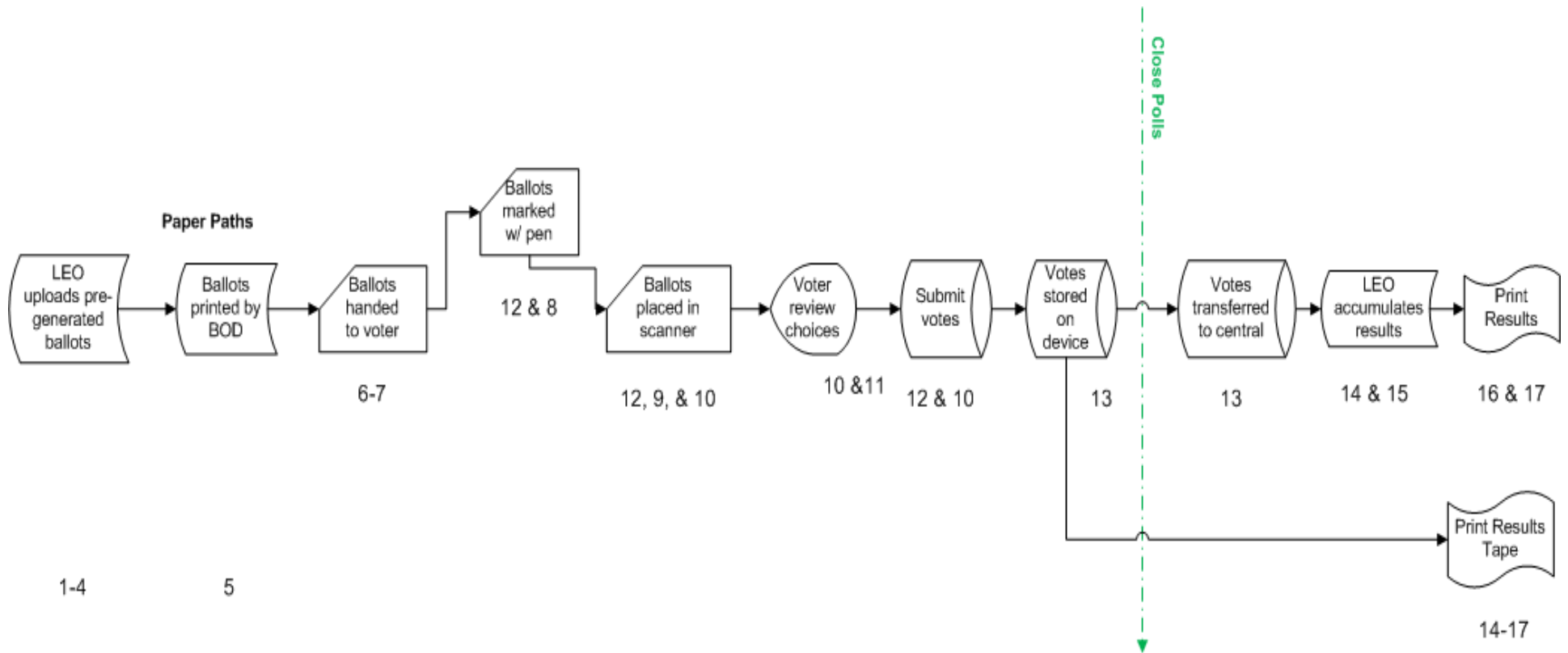
Voting System (VVSG 2.0)

- ▶ What constitutes a voting system?
 - A combination of devices that fulfills all of the functions.
- ▶ Could any combination of all the functions be tested by the EAC?
 - No, the combination of devices would also have to meet all of the requirements set forth in the Help America Vote Act.

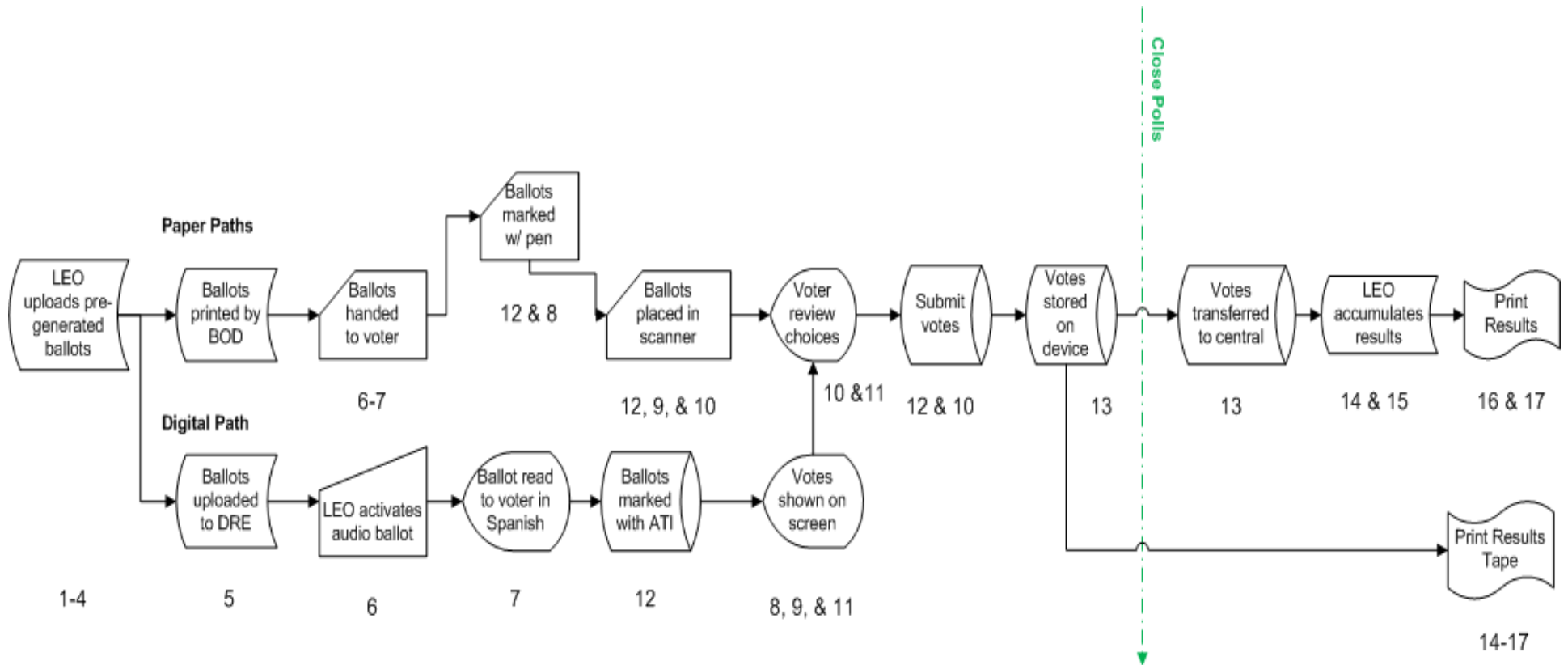
No Tech Solution



Voting System (All paper)

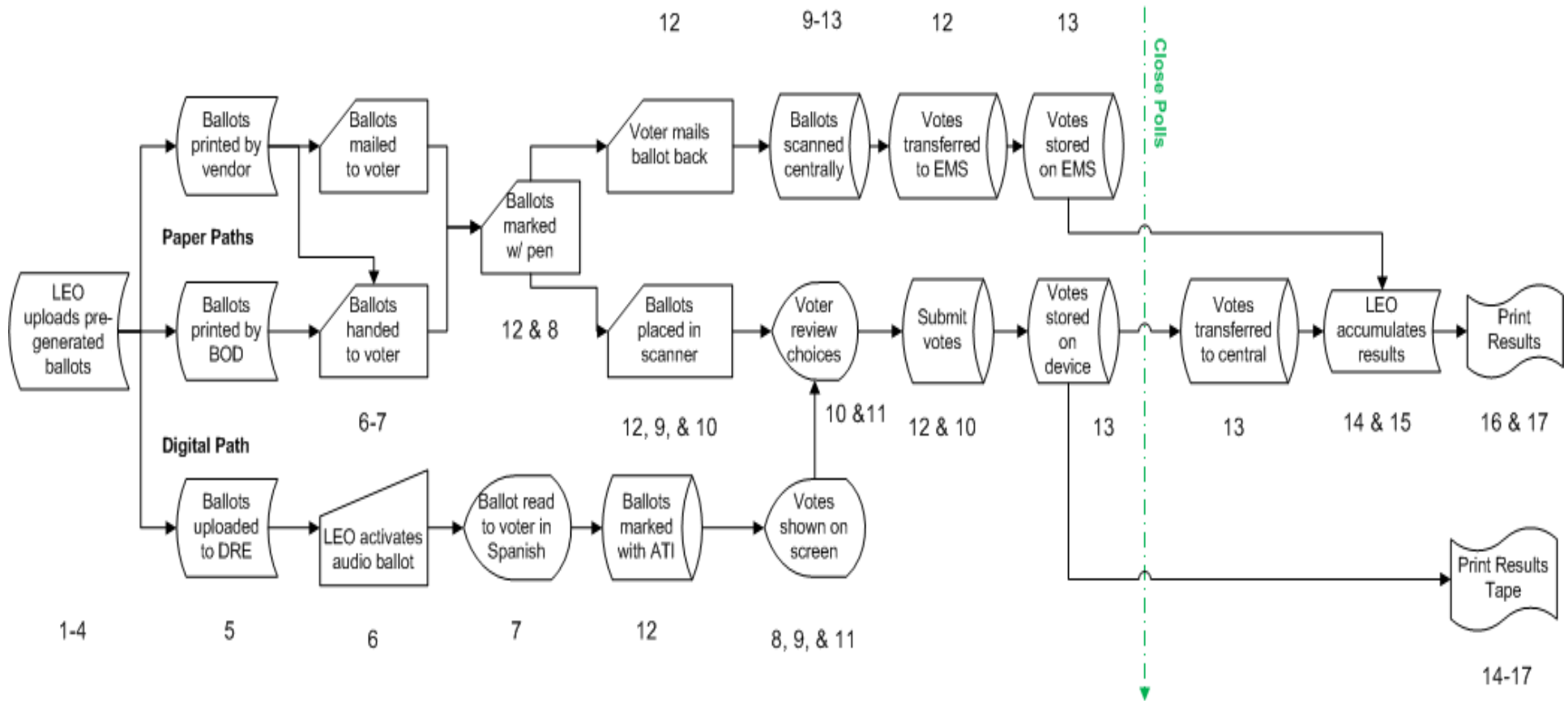


Voting System (Paper and Digital)

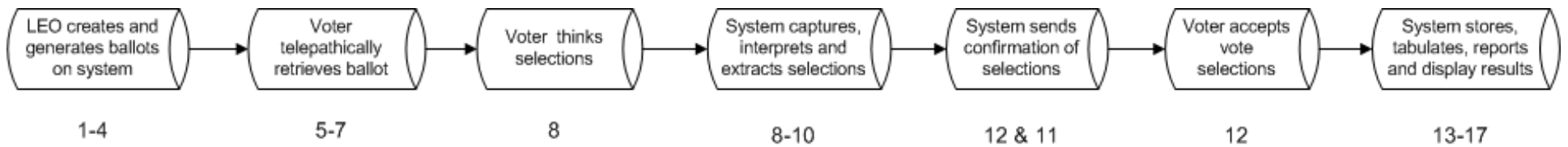


Typical Voting System

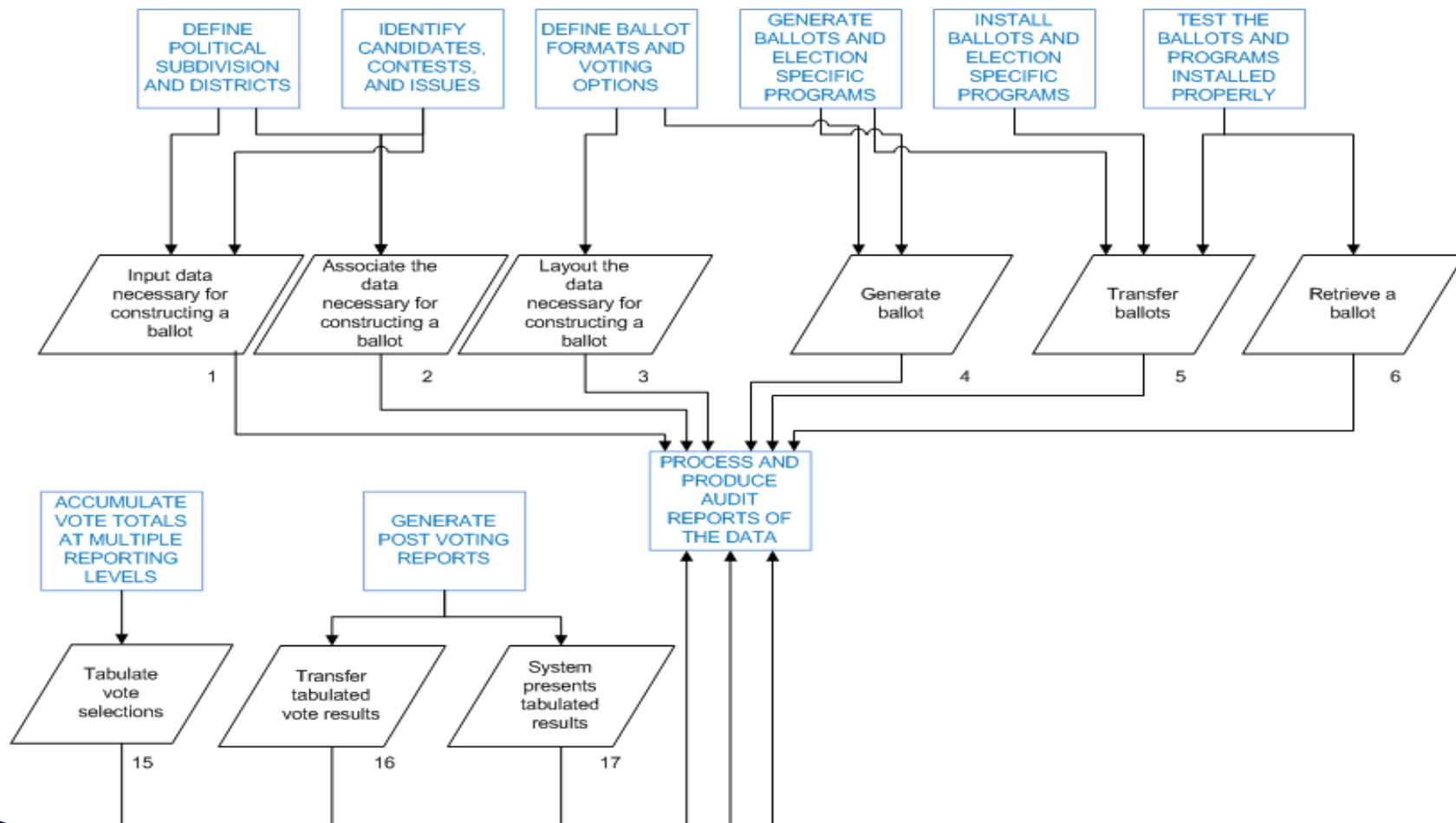
Paper (in-person and mail) and Digital



Futuristic Voting System (Hypothetical & Sci-Fi System)

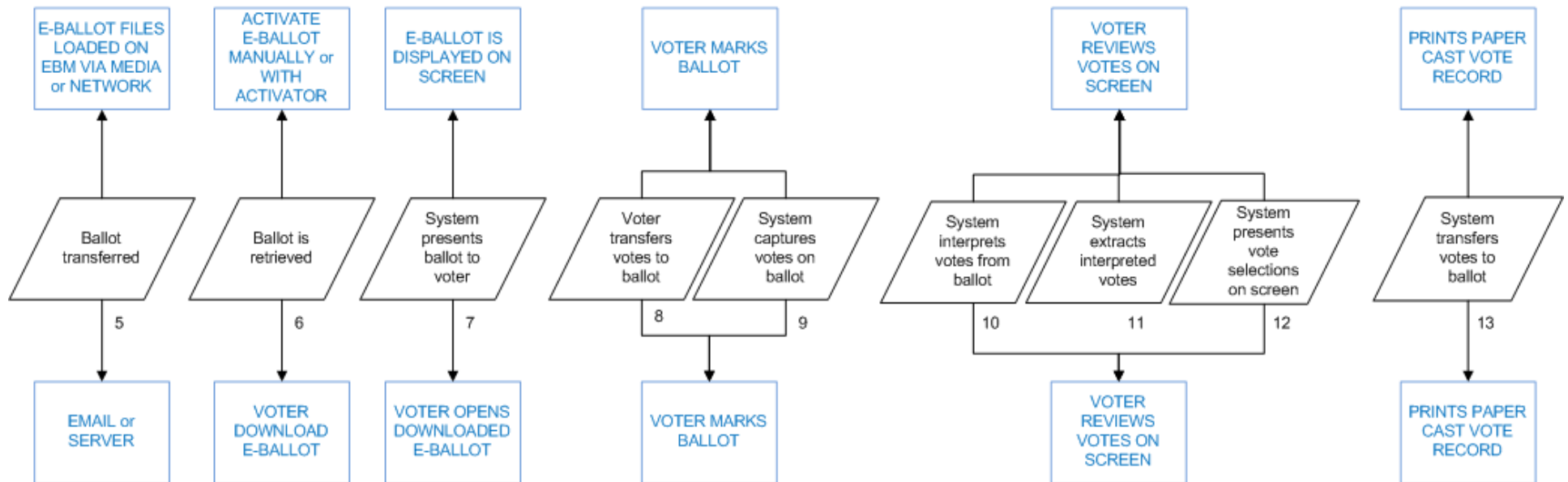


Use Case Example: Election Management System



Use Case Example: Electronic Ballot Marker (EBM)

EBM in Vote Location



Remote EBM

Questions???

- ▶ Brian Hancock – Director, Testing and Certification
 - BHancock@eac.gov
- ▶ Ryan Macias – Certification Program Specialist
 - RMacias@eac.gov

