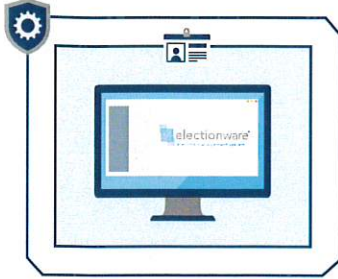


# 7 Major Steps to Securing Elections

ES&S voting systems are secured along every step of the voting and vote recording process using the latest, tested, trusted technology.

## PRE-ELECTION



**1** Election officials prepare the election information, such as the ballot layout, using election management software (EMS) on a hardened computer.

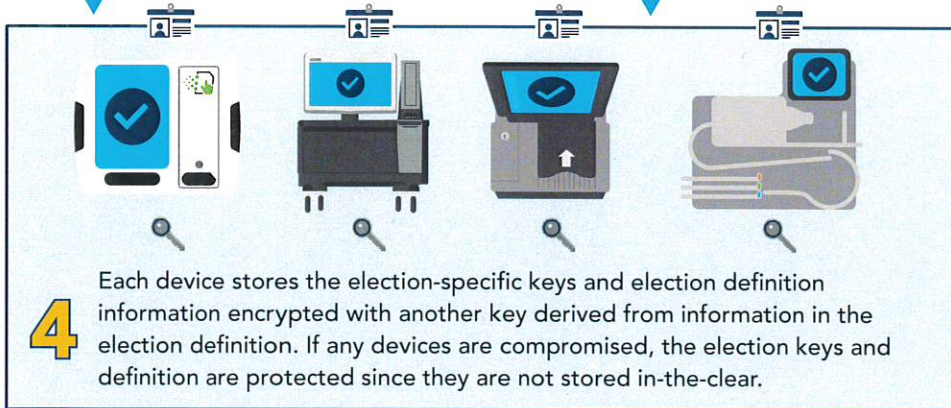
The EMS generates digital signatures and encryption keys unique to each election.



**2** Election information is completely cleared from the voting machine, and new encryption keys are loaded when an Election Qualification Code (EQC) USB flash drive is inserted.



**3** Election Definition flash drive loads encrypted and signed election information onto the voting machine.



**4** Each device stores the election-specific keys and election definition information encrypted with another key derived from information in the election definition. If any devices are compromised, the election keys and definition are protected since they are not stored in-the-clear.

## ELECTION DAY

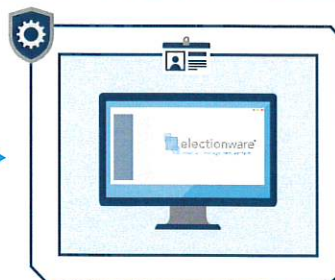
**5** All vote data is encrypted and digitally-signed — and additional hash validations occur.



## POST-ELECTION



**6** Unofficial results data is bundled and compressed for physical transport back to the election office.



**7** The EMS performs file and signature validations before retrieving results from the flash drive.

## SECURITY TOOLS



### Hardened System

A locked-down system used for election tasks; loaded with only essential software, reducing the channels for unauthorized access to the system.



### User Access Control

Systems only allow authorized users with login credentials to perform necessary actions. All user actions are logged for auditing and review purposes.



### Digital Signature

A method of confirming the origin and integrity of election data.



### Encryption Keys

Used to scramble data into unreadable text. The EMS generates unique encryption keys for each election.



### Certified Media

Industrial-grade USB flash drives, made in the U.S., that have been certified for use with the voting system. The EMS and voting devices will not read non-certified media.



### Hash Validation

A process of verifying the integrity of data.