1. Related Projects for US Government Elections

a. Colorado RLA (Risk-Limiting Audit) Project <http://bcn.boulder.co.us/~neal/elections/corla/> Software to upload electronic CVRs (cast-vote-records), randomly select ballots to audit, then check hand selected or re-scanned paper ballots.

Contractor for open-source software is “Free & Fair” <http://freeandfair.us/blog/open-free-election-technology/> Git: <https://github.com/FreeAndFair/ColoradoRLA> <https://github.com/FreeAndFair/OpenRLA>.

OpenCount now from Free & Fair https://github.com/FreeAndFair/OpenCount is software to tabulate scanned ballots. Presentation: <https://www.usenix.org/conference/evtwote12/workshop-program/presentation/wang\_kai>

b. Voting Systems Assessment Project (VSAP), Los Angeles County <http://vsap.lavote.net/> Voting station design with tablet and printer-scanner. Blank ballot sheets are inserted into printer-scanner, tablet used to make selections, printer emits printed and marked ballot for review, scanner records and feeds into collection box. Smartphone app allows pre-recorded votes to be entered via QR code. Soliciting vendors for implementation.

c. Prime III Voting System <http://www.primevotingsystem.com/> Tablet with docking station with keyboard and laser printer, open software. Used by NH in 2016 for accessible voting (ballot marking device). Allows home computer or phone to prepare QR code. <https://github.com/HXRL/Prime-III>

1. Travis County, TX STAR-Vote <https://www.usenix.org/conference/evtwote13/workshop-program/presentation/bell> PDF paper and slides for presentation on Travis County TX proposed system. Uses off the shelf tablet to produce printed ballot with only choices made. Scanner only reads IDs of ballots placed in box to record which ballots printed are cast. Electronic records separate. (No mail ballots.) Voters can check receipt with QR code.

Demo/prototype implementation by Free & Fair <https://github.com/FreeAndFair/STAR-Vote>

1. Open Source Voting Organizations

a. OSET Foundation <http://www.osetfoundation.org/ > 501c umbrella nonprofit to support “Trust the Vote” <https://trustthevote.org/>, site with actual software. [Currently, mostly Ruby-On-Rails in ruby using IEEE 1622 data models]

Useful diagrams of voting software architecture: <http://www.dubberly.com/wp-content/uploads/2014/09/TTV\_Framework\_Book.pdf> (broken HTML version: <https://trustthevote.org/our-work/framework/>), Simpler diagram of modules: <https://trustthevote.org/our-work/overview-2/>

b. Open Voting Consortium <http://www.openvotingconsortium.org/> Inactive (since 2011) prior effort to develop open source software. Efforts moved to CAVO.

c. California Association of Voting Officials (CAVO) <http://www.cavo-us.org/index.html> Nonprofit organization to promote open source voting. Election officials from several California counties are members, as well as other groups.

Report from LAFCO study on possible SF open voting <www.cavo-us.org/PDFS/Final%20-%20Study%20on%20Open%20Source%20Voting%20Systems.pdf>

d. Verified Voting Foundation <https://www.verifiedvoting.org/> nonprofit to provide resources on election systems and equipment. Has links and information on voting equipment and usage across the US.

1. Election Data Standards & Organizations

a. Election Markup Language (EML) – Original XML-based election data interchange format. Overview: <https://en.wikipedia.org/wiki/Election\_Markup\_Language>. Specifications: <http://docs.oasis-open.org/election/eml/v7.0/eml-v7.0.html> [2011] (Obsolete)

b. IEEE VSSC/1622: Common Data Format for Election Equipment <http://grouper.ieee.org/groups/1622/> (Institute of Electrical and Electronic Engineers), Voting Systems Standards Committee). Based on EML, Superceeded by NIST SP1500.

c. NIST SP1500-10x Voting Common Data Format standards. Ongoing effort on XML standards for interoperable election information. <http://collaborate.nist.gov/voting/bin/view/Voting/WebHome> From the NIST Voting section of the Information Technology Laboratory <https://www.nist.gov/itl/voting>. Coordinating and funded by EAC to produce new “Voluntary Voting Systems Guidelines.”

d. Election Assistance Commission <https://www.eac.gov/> established by the [Help America Vote Act of 2002 (HAVA)](https://www.eac.gov/about_the_eac/help_america_vote_act.aspx) to develop guidance on HAVA requirements. Works with NIST to sponsor Technical Guidelines Development Committee (TGDC) working groups. Result will be “Voluntary Voting Systems Guidelines.” <https://www.eac.gov/voting-equipment/voluntary-voting-system-guidelines/> Also works to implement Military and Overseas Voting.

e. Voting Information Project (VIP) <https://votinginfoproject.org/> Google/Pew effort to develop election data interchange standards, originally based on EML. Attempts to collect data from election officials to support Google's Civic API. [Contributed Data is not public/open-- private to Google/Pew.] In practice, only used for poll lookup. Github: https://github.com/votinginfoproject