

## 12/1/2023 Retreat Open Source Voting Discussion Guide

This document contains a discussion guide for the “Open Source Voting 101” portion of our December 1, 2023 Special Elections Commission Meeting / Off-Site Retreat. It contains a rough schedule for the discussion, along with additional background information for each part of the discussion.

See also the other three documents included in the agenda packet for this item:

- 2023–24 Commission & Department Policy Priority: Open Source Voting Systems
- Open Source Voting History in SF “At a Glance”
- Past Support for Open Source Voting in SF and California

### Schedule Overview

(Times are estimates and may wind up being different.)

1. (4 mins) Introduction / Review of Schedule (Jerdonek)
2. (30 mins) Historical Selection of Video Clips spanning 2007 to 2022 (Jerdonek)
3. (15 mins) Interactive Open Source Voting Demo (Matt Roe)
4. (15 mins) Open Source Voting Educational Session (Trent Lange)
  - a. Why is Open Source Voting Important?
  - b. Recent History in California & San Francisco (2018 and later)
5. (45 mins) Brainstorming and Strategy Session: What can the Commission do to help bring Open Source Voting to San Francisco? (Jerdonek and Lange)
6. Public Comment

### Table of Contents: Supporting Information

- A. Listing of Historical Video Clips (for item #2)
- B. Background for Open Source Voting Demo (for item #3)
- C. Trent Lange Bio (for item #4)
- D. Additional Background to Inform Next Steps (for item #5)
  - a. History of Past Voting System Costs

## A. Selected Historical Video Clips spanning 2007 to 2022

The videos below are in chronological order. All links are to videos in my personal YouTube channel, except for the October 1, 2021 KQED video.

1. (1:50) February 21, 2007 (17 years ago)  
San Francisco Board of Supervisors Budget & Finance Committee:  
Supervisor Chris Daley speaking with Sequoia Voting System Sales Representative Steven Bennett (Sequoia was later acquired by Dominion) about whether they can make their source code open source:  
[1:34 – 3:22] <https://www.youtube.com/watch?v=qskXfgc23VU&t=120s>
2. (0:16) June 5, 2007 (16 years ago) – SF Board of Supervisors Meeting:  
Supervisor Tom Ammiano introducing a resolution to conduct a trial of open source voting:  
[full video] <https://www.youtube.com/watch?v=ytG5ICXxkNI>
3. (1:00) December 5, 2007 (16 years ago) – SF Board of Supervisors Meeting:
  - a. Supervisor Tom Ammiano talking about open source voting and the voting system industry in the context of the Sequoia contract:  
[3:27 – 4:30] <https://www.youtube.com/watch?v=ebR5IJDnJI0&t=207s>
  - b. Director Arntz describes a provision in the Department's proposed 2007 contract with Sequoia Voting Systems (Sequoia was later acquired by Dominion) that required Sequoia to publicly disclose the source code of their system if an open source vendor got certified in California during the term of the contract:  
[13:53 – 14:30] <https://www.youtube.com/watch?v=ebR5IJDnJI0&t=833s>  
For the Board resolution for the contract, see:  
<https://sfgov.legistar.com/LegislationDetail.aspx?ID=479750&GUID=25DA3EB0-CCDA-464F-87D7-23C6B7A6CB1A>
4. (2:30) July 11, 2011 (12 years ago) – City Operations & Neighborhood Meeting:  
San Francisco Voting Systems Task Force (VSTF) Report:  
Supervisor John Avalos asking members of the VSTF about open source voting:  
[10:15 – 12:45] <https://www.youtube.com/watch?v=jsFNq2KTFLk&t=615s>
5. (2:31) October 21, 2014 (9 years ago) – SF Board of Supervisors Meeting:  
Supervisor Scott Wiener introducing a resolution “to put us on record in favor of moving firmly towards open source voting in San Francisco”:  
[full video] [https://www.youtube.com/watch?v=X4qGeJ5QF\\_c](https://www.youtube.com/watch?v=X4qGeJ5QF_c)
6. (0:08) October 4, 2016 (7 years ago) – NBC Bay Area News:  
Secretary of State Alex Padilla endorsing open source voting:  
[full video] <https://www.youtube.com/watch?v=HbSguoRI-U4>
7. (1:25) April 3, 2018 (5 years ago) – SF Board of Supervisors Meeting:  
Supervisor Malia Cohen speaks in support of open source and calls for a hearing on moving forward on open source voting:  
[full video] <https://www.youtube.com/watch?v=98LY8lFtE8c>

8. May 10, 2018 (5 years ago)  
San Francisco Board of Supervisors Budget & Finance Subcommittee Hearing:  
<https://www.youtube.com/watch?v=D6i4sPqMVNY>
  - a. (1:00) I (Chris Jerdonek) talking about SF leading on open source voting and the Commission's support for open source voting: (59:20 – 1:00:15)  
<https://www.youtube.com/watch?v=D6i4sPqMVNY&t=3562s>
  - b. (2:00) Christine Pelosi and Trent Lange speaking during public comment in support of open source voting: (1:06:05 – 1:08:00)  
<https://www.youtube.com/watch?v=D6i4sPqMVNY&t=3962s>
  - c. (1:00) Supervisors Catherine Stefani and Malia Cohen speaking in support of open source voting: (1:34:50 – 1:35:55)  
<https://www.youtube.com/watch?v=D6i4sPqMVNY&t=5685s>
9. (2:15) July 26, 2018 – California Little Hoover Commission:  
Public Hearing on Voting Equipment Security: Kammi Foote, Clerk-Recorder of Inyo County of Inyo, speaking in support of open source voting and as a solution to vendor lock-in: (1:42:16 – 1:44:06)  
<https://www.youtube.com/watch?v=ESaxg7GHvGA&t=6136s>
10. (0:30) October 1, 2021 – KQED event in San Francisco featuring Secretary of State Shirley Weber and Former Governor Jerry Brown:  
Former Governor Brown endorses open source voting:  
(1:07:50 – 1:08:25) <https://www.youtube.com/watch?v=5u9nsJY73yk&t=4070s>
11. (2:13) November 16, 2021 – SF Board of Supervisors Meeting:  
Board President Shamann Walton requesting legislation to conduct an open source voting pilot:  
[full video] <https://www.youtube.com/watch?v=VhqPIIhqf2w>
12. (0:57) December 14, 2021 – SF Board of Supervisors Meeting:  
Board President Shamann Walton introducing legislation to conduct an open source voting pilot:  
[full video] <https://www.youtube.com/watch?v=YZ4gA-lfHE>
13. (1:40) Nov. 16, 2022 – Elections Commission meeting:  
Matt Roe (VotingWorks) going on record saying VotingWorks would commit to a contractual agreement to implement a larger scope pilot for San Francisco (including ranked choice voting) if a plan for such was approved by the Secretary of State and had the support of Secretary of State Weber and Director Arntz:  
(3:09:50 - 3:11:30) [https://www.youtube.com/watch?v=Pa\\_5YLZ4gBE&t=11390s](https://www.youtube.com/watch?v=Pa_5YLZ4gBE&t=11390s)

## B. Background for Open Source Voting Demo

In February 2022, the Board of Supervisors unanimously passed an ordinance<sup>1</sup> for the Director to apply for and conduct an SB 360 (2013-2014) pilot of an open source voting system during the November 2022 election. The pilot was to use an accessible ballot-marking device developed by VotingWorks.<sup>2</sup> VotingWorks is the San Francisco-based nonprofit that has developed the only voting system that is both open source and currently used in US elections.

Matt Roe, Head of Product for VotingWorks, drafted a portion of the pilot application that Director Arntz submitted in February 2022. Mr. Roe also took part in meetings for the pilot that involved Secretary of State Shirley Weber and Director Arntz.

Recently, VotingWorks' open source tabulator and precinct scanner were certified for use in New Hampshire.<sup>3</sup> Mr. Roe will be showing the Commission a version of the precinct scanner that was certified in New Hampshire. Time permitting, Commissioners will also be able to try it out. In this way, the Commission can see and experience an example of an open source voting machine.

## C. Trent Lange Bio

Trent Lange has served on the board of the California Clean Money Campaign (CCMC) since 2003 and became Executive Director in 2009. He has been a spokesperson, lobbyist, and policy expert for CCMC, analyzing campaign spending and proposing solutions to campaign finance issues both for California and elsewhere. This includes leading the campaign for AB 249 (Mullin), the California DISCLOSE Act, the first bill in the country to make political ads clearly show their true funders even if they try to hide behind layers of front groups, and also AB 1416 (Santiago-Gonzalez-Chiu), the Ballot DISCLOSE Act, the first bill in the country to require supporters and opponents of ballot measures to be listed on the ballot.

Dr. Lange has a Ph.D. from UCLA, with a multidisciplinary academic background in computer science, cognitive science, and cognitive psychology. He is the author of over 20 academic publications.

He has been involved with open-source voting system issues since 2018. He sponsored AB 1784 (the Secure the Vote Act) in 2019, which was authored by Assemblymembers

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<sup>1</sup> Open Source Voting Pilot Ordinance:

<https://sfgov.legistar.com/LegislationDetail.aspx?ID=5363338&GUID=17F649C5-8994-4B55-BC46-BEF731449C51>

<sup>2</sup> VotingWorks: <https://www.voting.works/>

<sup>3</sup> Open Source News Item re: New Hampshire certifying VotingWorks:

[https://sf.gov/sites/default/files/2023-10/Open\\_Source\\_Voting\\_NH\\_VotingWorks.pdf](https://sf.gov/sites/default/files/2023-10/Open_Source_Voting_NH_VotingWorks.pdf)

Miguel Santiago, David Chiu, and Lorena Gonzalez, and Senator Scott Wiener as a Principal Coauthor. It would have provided \$16 million in matching funds for counties like San Francisco to develop an open-source voting system. It passed the Assembly on a bipartisan 60-12 vote before being held in the Senate during the pandemic. Previously, CCMC led a coalition that successfully lobbied the San Francisco Board of Supervisors and Mayor Breed to allocate \$1.3 million for San Francisco to start the development of an open-source voting system.

## D. Additional Background to Inform Next Steps

### 1. California voting system standards getting upgraded.

In 2021, the US Election Assistance Commission (EAC) adopted a new version of its voting system standards, called VVSG 2.0. The previous standards, VVSG 1.1, were adopted in 2015. The EAC stopped accepting voting system applications against VVSG 1.1 on November 16, 2023.<sup>4</sup> Future voting systems will be certified against VVSG 2.0.

Normally, California's Voting System Standards (CVSS) are better than the federal EAC's. With VVSG 2.0, California's standards now lag the EAC's. Earlier this year, the California Secretary of State announced they have started the process of upgrading the California standards.<sup>5</sup> This way, California can again exceed the federal standards. California last updated its standards nine years ago in October 2014.

Question for discussion: Does it make sense to go through the process of acquiring a new voting system certified against old standards, and right before California updates its standards?

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<sup>4</sup> EAC VVSG: <https://www.eac.gov/voting-equipment/voluntary-voting-system-guidelines>

<sup>5</sup> California Secretary of State OVSTA Monthly Update – August 2023: <https://elections.cdn.sos.ca.gov/ccrov/2023/august/23062sl.pdf>

**2. In the past, the Department of Elections has extended its voting system contract beyond its original terms.**

San Francisco signed a voting system contract in 2007 for four years, with two one-year options to extend (like San Francisco’s current contract with Dominion that it signed in 2018). For the contract signed in 2007, San Francisco extended it two more times after exercising the original two one-year options to extend:<sup>6</sup>

- Once in November 2013 for three years, and
- Once in 2017 for two more years.

This means the Department had the voting system for 11 years, or 5 years beyond its original six year contract. See the attached spreadsheet for the costs of San Francisco’s past voting system contracts.

**3. San Francisco’s current contract ends in March 2025.**

See below for a screenshot from the budget memo from the Commission’s February 15, 2023 meeting of when the current voting system contract ends, and the schedule if an RFP were to be issued next spring.

<b>Activity</b>	<b>Timeline</b>
Current voting system contract ends	March 31, 2025
Date RFP for new voting system issued	Approx. April 2024
RFP bid and contract negotiation period	Approx. May 2024 – October 2024
Board of Supervisors’ approval of contract	Approx. November 2024 – February 2025
Implementation and outreach period	Approx. March 2025 – March 2026
First election in which new voting system used	June 2, 2026

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<sup>6</sup> Fourth Amendment to agreement with Dominion Voting Systems (1/20/2017): <https://sfgov.legistar.com/LegislationDetail.aspx?ID=2861447&GUID=2E15E282-D250-4191-A85D-361F27E8B6C8>

Year	Hardware*	Software**	Other		Per Election Services	Election Services Total	Year Total	Total (cumulative)	Years	Per Year Total (cumulative)	Notes
Initial	\$6,528,933.25	\$1,400,000.00	\$1,708,000.00				\$9,636,933.25				
2008***	\$0.00	\$0.00		2	\$497,400.00	\$994,800.00	\$994,800.00	\$10,631,733.25	1	\$10,631,733.25	
2009	\$203,800.00	\$182,500.00		1	\$497,400.00	\$497,400.00	\$883,700.00	\$11,515,433.25	2	\$5,757,716.63	
2010	\$203,800.00	\$182,500.00		2	\$497,400.00	\$994,800.00	\$1,381,100.00	\$12,896,533.25	3	\$4,298,844.42	
2011	\$203,800.00	\$182,500.00		1	\$497,400.00	\$497,400.00	\$883,700.00	\$13,780,233.25	4	\$3,445,058.31	End of initial four-year contract.
2012	\$203,800.00	\$182,500.00		2	\$497,400.00	\$994,800.00	\$1,381,100.00	\$15,161,333.25	5	\$3,032,266.65	
2013	\$203,800.00	\$182,500.00		1	\$497,400.00	\$497,400.00	\$883,700.00	\$16,045,033.25	6	\$2,674,172.21	After initial two-year extension.
2014	\$203,800.00	\$182,500.00		2	\$497,400.00	\$994,800.00	\$1,381,100.00	\$17,426,133.25	7	\$2,489,447.61	
2015	\$203,800.00	\$182,500.00		1	\$497,400.00	\$497,400.00	\$883,700.00	\$18,309,833.25	8	\$2,288,729.16	
2016	\$203,800.00	\$182,500.00		2	\$497,400.00	\$994,800.00	\$1,381,100.00	\$19,690,933.25	9	\$2,187,881.47	After third extension.
2017	\$254,750.00	\$228,125.00		0	\$662,004.00	\$0.00	\$482,875.00	\$20,173,808.25	10	\$2,017,380.83	
2018	\$254,750.00	\$228,125.00		2	\$662,004.00	\$1,324,008.00	\$1,806,883.00	\$21,980,691.25	11	\$1,998,244.66	After fourth extension (approved).
2019							\$2,100,000.00	\$24,080,691.25	12	\$2,006,724.27	Current Dominion contract
2020							\$2,100,000.00	\$26,180,691.25	13	\$2,013,899.33	
2021							\$2,100,000.00	\$28,280,691.25	14	\$2,020,049.38	
2022							\$2,100,000.00	\$30,380,691.25	15	\$2,025,379.42	
2023							\$2,100,000.00	\$32,480,691.25	16	\$2,030,043.20	
2024							\$2,100,000.00	\$34,580,691.25	17	\$2,034,158.31	
<b>Total</b>	<b>\$8,668,833.25</b>	<b>\$3,316,250.00</b>	<b>\$1,708,000.00</b>			<b>\$8,287,608.00</b>		<b>\$34,580,691.25</b>			
<b>Notes:</b>	<p>The initial contract was four years with options to renew two additional years.  *The per-year hardware costs (i.e. after the "initial") are for hardware maintenance (i.e. parts and repairs).  **The per-year software costs (i.e. after the "initial") are the software license fees.  ***The hardware maintenance and software license fees for 2008 were included in the initial cost.  The numbers above are not adjusted for inflation to be in "today's dollars."</p>										
<b>Source:</b>	<p>The numbers in this spreadsheet for 2008 to 2011 come from the following document provided to me by Director Arntz: City and County of San Francisco, Office of Contract Administration, Purchasing Division, First Amendment ("San Francisco Purchase Agreement First Amendment 01/18/08"). The numbers for 2012 to 2016 come from SF LAFCo's draft "Study on Open Source Voting Systems," dated May 13, 2015.</p>										

1 [Contract Amendment - Voting System - Not to Exceed \$21,980,691.25]

2  
3 **Ordinance authorizing the Department of Elections to enter into the Fourth Amendment**  
4 **of an agreement with Dominion Voting Systems, Inc. to extend the term of the**  
5 **agreement through December 31, 2018, increasing the total not-to-exceed amount of**  
6 **the Agreement by \$2,289,758, from \$19,690,933.25 to \$21,980,691.25.**

7  
8 **NOTE:** **Unchanged Code text and uncodified text** are in plain Arial font.  
9 **Additions to Codes** are in *single-underline italics Times New Roman font*.  
10 **Deletions to Codes** are in ~~*italics Times New Roman font*~~.  
11 **Board amendment additions** are in double-underlined Arial font.  
12 **Board amendment deletions** are in ~~Arial font~~.  
13 **Asterisks (\* \* \* \*)** indicate the omission of unchanged Code  
14 subsections or parts of tables.

15 Be it ordained by the People of the City and County of San Francisco:

16 **Section 1. Findings.** The Board of Supervisors of the City and County of San  
17 Francisco hereby finds that:

18 (a) In March 31, 2005, the Department of Elections issued a Request for Proposal  
19 (RFP) for new voting equipment and voting equipment services. The RFP, pursuant to San  
20 Francisco Administrative Code 21.9(a)(2), stated the contract would be for an initial term of  
21 four years, with two options to renew for one year each. Sequoia Voting Systems, Inc.  
22 (Sequoia) was the highest ranked proposer.

23 (b) In December 2007, the City entered into a contract with Sequoia for the  
24 purchase of new voting equipment and voting services (Agreement), as approved by the  
25 Board of Supervisors under Resolution No. 654-07. As set out in the RFP, the initial term of  
the Agreement was four years, from December 11, 2007 to December 11, 2011, with two  
options for the City to renew for one year each. Dominion Voting Systems, Inc. (Dominion)



1 acquired substantially all of the assets of Sequoia on June 4, 2010, and assumed Sequoia's  
2 Agreement with the City.

3 (c) In November 2011, the City exercised its two one-year options and extended the  
4 Contract through December 11, 2013, at a cost not-to-exceed \$3,645,900, as approved by the  
5 Board of Supervisors under Resolution No. 494-11. Under these extensions, Dominion  
6 continued to provide voting services at the rates in effect for 2007-2011 and City was not  
7 required to purchase new voting machines.

8 (d) In November 2013, the Board of Supervisors approved an ordinance extending  
9 the term of the contract through December 10, 2016 under File No. 269-13. Under that  
10 extension, Dominion continued to provide voting services at the rates in effect for 2007-2011  
11 and City was not required to purchase new voting machines.

12 (e) The Department of Elections now desires to extend the Agreement through  
13 December 31, 2018, at a cost not-to-exceed of \$2,289,758 for the Fourth Amendment. Under  
14 this extension, Dominion would continue to provide voting services ~~at the rates in effect for~~  
15 2007-2016 at increased rates in effect for 2017-2018, and City would not be required to  
16 purchase new voting machines.

17 (f) This extension is necessary for five reasons. First, the last time the Department  
18 of Elections issued an RFP for a new voting system, the RFP process took over two and a  
19 half years to complete given the complicated nature of the purchase. Second, the  
20 Department of Elections does not anticipate having additional funds to secure new voting  
21 equipment in the current fiscal year, and thus will continue to use the current system. Third,  
22 there are no new voting systems currently available that have been certified by the Secretary  
23 of State and can accommodate elections using Ranked Choice Voting. Fourth, only one  
24 contractor offers Ranked Choice Voting options, which is the City's current contractor,  
25