

1 **Open Source Voting Systems Resolution**

2 Adopted by the San Francisco Elections Commission (6-0) on November 18, 2015.

3
4 [Supporting Open Source Voting Systems — Encouraging the Mayor and Board
5 of Supervisors to Initiate a Project to Develop and Certify an Open Source Voting System]

6 **Resolution to support the development and certification of an open source voting**
7 **system running on commercial off-the-shelf hardware; and to request that the Mayor**
8 **and Board of Supervisors initiate and fund a project to develop and certify such a**
9 **system for use in San Francisco.**

10 WHEREAS, Free and fair elections, as a cornerstone of the democratic process,
11 demand the highest levels of public openness, accessibility, accuracy, security, and
12 trustworthiness;

13 WHEREAS, The public benefits from elections that, in their conduct and operation, also
14 have increased efficiency, innovation, and affordability;

15 WHEREAS, The San Francisco Elections Commission (“Elections Commission”) on
16 May 16, 2007 adopted a resolution that—

17 (a) Cited concerns raised by members of the Board of Supervisors about ratifying a
18 contract for voting machines which did not allow for open source software; and that

19 (b) Established a policy that the San Francisco Department of Elections (“Department
20 of Elections”) shall endeavor in contracting to prioritize and select if possible, voting
21 systems and vendors which provide the maximum level of security and transparency
22 possible consistent with the principles of public disclosure;

23 WHEREAS, The City and County of San Francisco (“San Francisco”) on December 11,
24 2007, and as amended on January 18, 2008, entered into a four-year voting system

1 agreement with Sequoia Voting Systems, Inc. at a cost of \$13.78 million — an agreement that
2 the Board of Supervisors extended and that will expire on January 1, 2017;

3 WHEREAS, The Board of Supervisors on November 18, 2008 created a Voting
4 Systems Task Force to make recommendations to the Board of Supervisors about voting
5 system standards, design and development, including models for development of a voting
6 system including proprietary, disclosed and open source software and hardware approaches
7 and which address aforementioned voting systems requirements and assure a cost effective,
8 highly reliable, maintainable system;

9 WHEREAS, The Voting Systems Task Force in June 2011 completed its report, which
10 recommended in part that—

11 (a) The Department of Elections should give strong preference to a voting system
12 licensing structure that gives San Francisco all of the rights provided by a license
13 approved by the Open Source Initiative (OSI), even if the system is maintained by an
14 external party; and that

15 (b) If an open source model is used, that San Francisco work with other jurisdictions
16 and organizations to develop and manage the code-base in order to leverage
17 additional resources and expertise; and

18 (c) San Francisco should be an active participant in the movement toward more open
19 and transparent voting systems;

20 WHEREAS, After the November 2016 election, San Francisco will have spent \$19.69
21 million over nine years on its current voting system agreement, including \$2.86 million on
22 software licensing fees, \$6.53 million on hardware, and \$1.63 million on hardware
23 maintenance;

24 WHEREAS, The California legislature, in enacting SB 360 in 2013, expressed its

1 intention that—

2 (a) The Secretary of State study and encourage the development of voting systems
3 that use nonproprietary source code and that are easy to audit;

4 (b) California receive the benefits of the publicly funded development of a
5 nonproprietary voting system in the state; and

6 (c) Provides for the experimental use of a voting system in a pilot program if the voting
7 system uses only software and firmware with disclosed source code, except for
8 unmodified commercial off-the-shelf software and firmware;

9 WHEREAS, The Board of Supervisors on December 9, 2014 unanimously passed
10 Resolution No. 460-14, which committed San Francisco to work with other jurisdictions and
11 organizations to create new voting systems using open source software, and which stated
12 further that—

13 (a) San Francisco supports the movement toward more open and transparent voting
14 systems and the creation of new voting systems using open source software and
15 inexpensive commodity components; and

16 (b) The Board of Supervisors requests that the Local Agency Formation Commission
17 conduct a study of the feasibility and cost-effectiveness of San Francisco leading an
18 effort to develop and use a new voting system, either whole or in part, through a
19 collaborative model;

20 WHEREAS, The Department of Elections on August 6, 2015 issued a Request for
21 Information (RFI) for a new voting system, expressing a preference for voting systems
22 designed using open source software;

23 WHEREAS, The Department received thirteen responses to the RFI by the August 28,
24 2015 deadline, all of which left significant gaps in meeting the RFI requirements with existing

1 voting systems; and

2 WHEREAS, Six RFI respondents proposed predominantly open source systems,
3 though in the absence of funding, none have yet been fully developed or certified; and

4 WHEREAS, The Local Agency Formation Commission on October 23, 2015 issued its
5 final report, “Study on Open Source Voting Systems,” which analyzed the possibility of San
6 Francisco leading an effort to develop and use an open source voting system, and concluded
7 in part that several ongoing voting system projects can be adopted and provide an opportunity
8 for San Francisco to expedite the development of an open source voting system, if San
9 Francisco chooses to develop its own voting system;

10 WHEREAS, The Elections Commission on October 21, 2015 held a public hearing on
11 open source voting systems during which five of the six open source RFI respondents gave
12 presentations on the benefits of open source voting systems and on possible ways forward for
13 San Francisco to develop and adopt a certified open source voting system;

14 WHEREAS, Any open source software license approved by the Open Source Initiative
15 (OSI) ensures that the software can be freely viewed, used, changed, and redistributed — in
16 modified or unmodified form — by anyone, including people, organizations, and governmental
17 entities;

18 WHEREAS, The transparency of open source software promotes greater trust and
19 public confidence in its use, and in particular permits greater security and correctness through
20 increased public scrutiny and feedback from experts;

21 WHEREAS, For the purposes of this resolution, “open voting system” means a voting
22 system whose software is open source under OSI-approved software licenses; whose
23 electronic hardware is commercial off-the-shelf (COTS); and whose auxiliary development
24 products, materials, and documents related to areas such as requirements, design, build,

1 installation, testing, and user documentation, and any additional materials submitted to gain
2 regulatory approval, are freely and openly licensed;

3 WHEREAS, The current voting system marketplace provides little or no incentive for
4 established vendors to offer an open voting system, and the initial development and
5 certification costs make it prohibitive for new industry entrants to do so;

6 WHEREAS, Since elections are a public process undergirding democracy across the
7 United States, access to improved voting systems should not be limited only to those
8 jurisdictions with greater financial means, and all jurisdictions should be free to make
9 improvements to those systems on their own as needed;

10 WHEREAS, The development and certification of an open voting system could not only
11 provide San Francisco with an affordable, accurate, flexible, and secure voting system, but
12 could benefit all election jurisdictions across the country by providing them such an option;

13 WHEREAS, Additionally, copyleft provisions in open source software licenses would
14 help ensure that everyone, including San Francisco, has free access to future changes and
15 improvements to that software, providing a way for San Francisco to derive additional benefit
16 from the creation of an open voting system; and

17 WHEREAS, As a leader in innovative public policy initiatives and as a hub for
18 innovation in software and open source — with the San Francisco Bay Area home to many
19 well-known organizations like Apple, Facebook, GitHub, Google, the Mozilla Foundation,
20 Twitter, Yahoo, and countless others contributing significantly to open source software — San
21 Francisco is a natural jurisdiction to take the lead in developing and certifying an open voting
22 system; now, therefore be it

23 RESOLVED, That it be the position of the Elections Commission that open voting
24 systems using paper ballots have the potential to provide the greatest degree of accessibility,

1 accuracy, transparency, security, auditability, affordability, and flexibility in elections, and so
2 would best serve the voters of San Francisco; and, be it

3 FURTHER RESOLVED, That the Elections Commission expresses its appreciation to
4 the Board of Supervisors for its past resolution in support of open source voting systems
5 running on inexpensive commodity components, and encourages the Mayor and Board of
6 Supervisors to initiate and fund a project, starting in the fiscal year beginning July 1, 2016,
7 with the goal of ensuring that an open voting system be available for use by the Department
8 of Elections for the June 2020 Presidential Primary Election, and for partial or pilot use by the
9 November 2019 Municipal Election or earlier; and, be it

10 FURTHER RESOLVED, That the Elections Commission encourages the Mayor and
11 Board of Supervisors to consider incorporating the following characteristics into such a
12 project:

13 (a) First, hire a project director with technical expertise to be responsible for planning
14 and leading the project, including working with stakeholders, collaborators, and
15 regulators; drafting system requirements; and selecting and managing technical
16 contractors, as necessary;

17 (b) Incorporate openness and transparency into the project, for example by forming a
18 public committee of experts and citizens to advise the project director, and by releasing
19 all development products, including software source code and documentation, as they
20 are developed;

21 (c) Design and implement the voting system in a modular fashion, by developing
22 components like the ballot layout software, scanner device drivers, a central scanner, a
23 precinct scanner, an accessible voting device, tabulation software, and the election
24 results reporter independently and in parallel, using open data formats to communicate

- 1 with one another;
- 2 (d) Express a preference for open source licenses with copyleft characteristics so that
3 San Francisco and other jurisdictions can benefit from future improvements that others
4 make to the voting system components;
- 5 (e) Build on prior open source work where possible to reduce project time and costs;
- 6 (f) Permit the selection of different organizations to develop different components of the
7 voting system to reduce project risk, for example by issuing separate, smaller
8 Requests for Proposal (RFPs) for each voting system component;
- 9 (g) Spread project costs over multiple years to reduce risk, spending funds in
10 subsequent years only after the results of prior expenditures are known;
- 11 (h) Produce production-ready deliverables early on and incrementally as in an agile
12 approach to further reduce risks and costs, rather than waiting until the conclusion of
13 the project to deliver finished versions of all components;
- 14 (i) Certify and use components of the voting system in real elections prior to the
15 completion of the full system, for example by facilitating pilot projects of the form
16 permitted by SB 360 and/or the use of a blended system during a transition period that
17 incorporates components from both a proprietary system and the open system being
18 developed;
- 19 (j) Work with the California Secretary of State's Office before the completion of each
20 component to maximize the likelihood of state certification;
- 21 (k) Recruit other organizations, including other jurisdictions, universities, open source
22 software organizations, and commercial entities with an interest in open source, to
23 cosponsor, fund, and help manage the development, certification, and maintenance of
24 the voting system;

1 (l) Explore the possibility of innovative partnerships with public and private entities that
2 could let San Francisco further reduce, and even recover, project costs;

3 (m) Seek grants from foundations, other government agencies, and nonprofit
4 organizations with a similar interest in election openness to help fund and support the
5 project; and, be it

6 FINALLY RESOLVED, That it be the policy of the Department of Elections to support
7 and work towards the adoption of a fully open voting system, including supporting the
8 development, testing, and certification of such a system.