Summary of an Analysis of Open Source Initiative 2021 Election Voters Lists and Ballots

JMA Consulting conducted a thorough analysis of the Open Source Initiative (OSI) Drupal website including its CiviCRM system to determine the integrity of the Voters lists used in its 2021 Board Election March 5 - 16, 2021 for Individual member and affiliate member seats, as well as investigating if there were any improprieties with ballots cast in the election. Various governance, administrative and technical recommendations are included to improve the reliability and transparency of OSI elections in the future.

This document summarizes a detailed forensic report that contains extensive listings and detailed discussions of contact information that is private and confidential in many jurisdictions. These listings and the queries that produced them provided a verifiable basis for making the set of conclusions and recommendations summarized below. Important general findings are included in this summary, while some points useful from the perspective of staff implementing the recommendations have not been reproduced.

The investigation focused on a weekly backup of the site that was taken on March 6, supplemented by a review of the current production system. JMA Consulting reviewed operating system, Drupal content management system and CiviCRM constituency management system logs, tables and files; PayPal payment processor reports; Helios voting system voter input files and Helios information on ballots cast.

Our review methodology proceeded generally in the following order:
1. Secure the available data.
2. Investigate if there is evidence the site was hacked or data compromised.
3. Review admin user accesses made from November 1, 2020 - March 4, 2021 and changes that would have affected the voters lists.
4. More general review of the integrity of the voters lists used.
5. Review any evidence of inappropriate voting.

Various issues were identified that resulted in ballots being inappropriately issued or not issued in both the Individual Member and Affiliate Member elections. The report provides recommendations on how to address them in order to conduct a well-regulated election using an accurate Voters List in each election.

An extensive analysis found no evidence that the https://opensource.org site, its server or its CiviCRM database used to produce the voters lists had been compromised, for example, through an attack on a security vulnerability.
Although Board members for the most part had permission to add, change or delete information that produced the Individual and Affiliate voters lists, they only updated their own membership information in the pre-election. In one case a Board Member, Hong Phuc Dang, added an email and an address to an Affiliate contact record with which she was associated, FOSSASIA. This was a reasonable action similar to updating one’s own information. Although there was no problem with any of the updates of CiviCRM by Board Members in the pre-election period, we nonetheless recommend restricting the permission of Board members to change CiviCRM data, reserving this permission for just staff members.

In the Individual Member election, current individual members get a ballot, including Life Members and Student Members and Complimentary Members. There was a long-standing setup in CiviCRM of the organizational contacts for some but not all Affiliates in CiviCRM having Life Memberships. Some of these organizations had emails, including the one added by a Board Member. The procedures used for extracting voters for the 2021 Individual Member election did not filter for just Individual contacts, so several ballots were issued due to this administrative mixup that should not have been. We recommend that Life Memberships be removed from organizational contacts in CiviCRM so this confusion will not recur in the future.

Most of these ballots in the 2021 Individual Member election issued to emails associated with Organizations were not cast. However, one was cast, namely, the one issued to the email added to FOSSASIA.

JMA Consulting was informed that two voters in the Individual Member election had access to this email account. Both voters cast their own ballots. We reviewed the Helios voting system data on the time of voting and IP used to cast these three ballots. Hong Phuc Dang’s ballot and the inappropriately issued ballot were cast within a few minutes of each other from the same location, providing strong evidence she voted twice in the Individual Member election.

JMA Consulting recommendations would prevent the possibility of a person receiving two ballots in the Individual Member election. It needs to be emphasized that, but for the inappropriate administrative procedures by OSI staff in producing the Individual Members election voters list, the edit of the FOSSASIA record would not have resulted in a ballot being issued to that email, and no one would have received two ballots.

JMA Consulting found two cases that led to eligible voters not receiving a ballot. In both cases, one of two similar membership records for a contact had been deleted manually when their duplicate contacts were merged. If the person’s automatic annual membership renewal payment was associated with the membership that got deleted rather than one that was retained, then when the annual payment came through their remaining membership was not renewed in the system. These individuals should have had ballots issued to them. Their recurring payments need to be set up again.
One Individual Life Member did not have a ballot issued to them, possibly having been deleted inadvertently when some organizations with Life Memberships were manually deleted from the list after it had been produced.

In the Affiliate Member election, the record keeping for current Affiliates and their representatives who get to vote on their behalf is overly complicated yet poorly designed. A Drupal page is edited that reflects the current Affiliate members. A CiviCRM group of Individual contacts contains the Affiliate representatives, with the name of the Affiliate they represent put in the Street Address field in most cases. The updates in Drupal and CiviCRM are not kept synchronized by code, and the lists have diverged over time due to manual errors. Comparing the Drupal page with the CiviCRM contacts indicated that there were some Affiliates that were on the Drupal page that did not have Representatives in the group, and some of the Affiliate Representatives in the CiviCRM group were related to Affiliates that were not on the Drupal page. Several changes were made in the representative for various Affiliates around the start of the election. The way the information on representatives is set up in CiviCRM relies on a manual process to ensure there is only one representative per Affiliate. In one case it appears that two representatives for the same Affiliate were each given ballots. If the public Drupal page listing Affiliates was accurate as of March 4th, then six ballots were inappropriately issued in the Affiliate election and five of them were cast.

JMA Consulting recommends that the Drupal / CiviCRM system be reconfigured so there is a single source of truth regarding which Affiliates are active, and that the Affiliate representatives be tracked in a way that leverages CiviCRM’s capabilities to ensure there is just one representative per Affiliate. The Drupal page allowing the Affiliates to be viewed can draw the logos, names and descriptions of the active Affiliates from CiviCRM.

JMA Consulting’s other recommendations include: removing unused admin accounts, improving transparency around the grace period allowing members to vote in the one month period after their membership expires, removing duplicate contacts and memberships within CiviCRM, testing file and database recovery procedures, and various other administrative and technical improvements.

Both the Individual Member and Affiliate Member elections had voters lists that were missing some valid voters and contained invalid voter records that cast ballots. These voters lists flaws were not attributable to actions by Board Members but to various administrative procedures especially regarding how CiviCRM was being used and how voters lists were extracted.

JMA Consulting is confident that if its recommendations to the Open Source Initiative are implemented that OSI will be well-positioned to conduct well-regulated, fair elections for its Board of Directors based on accurate voters lists for both Individual Members and Affiliate Members.

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