ARIN ELECTION SYSTEM ALTERNATIVES

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Background

- ARIN presently uses BigPulse election system software for all elections. It is used integrated with ARIN Online for Board and Advisory Council (AC) Elections, and in a standalone manner for Number Resource Organization Number Council (NRO NC)

- For the integrated elections (Board and AC elections), ARIN Online systems are used to both generate the information that is used to populate the election system as well as to validate access to the 3rd party system to allow voting to occur

- We have nearly 200 voters who are the registered voting contact for multiple organizations, so ARIN has each voting contact treated as an distinct organization with the ability to cast a single "weighted vote" whose total weight equals the total number of actual organizations for which they are the registered voting contact

- While ARIN's use of "weighted voting" is unusual, the mechanism itself (different voters having different weights in a single election) is both supported in BigPulse and is common in other voting systems

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Background (cont.)

- There are several problems with such an approach, including:
    - Inability to know specific ballot cast for a given organization
    - Requirement to post-process third-party election reports to generate suitable election reports for election verification
- For example, if a voting contact for 10 organizations votes for candidate A and B with weight 9, and then for candidates C and D with weight 1, the election totals are correct even if we cannot specifically identify which of 10 represented organizations cast its particular ballot for C and D.   (This also means that we cannot allow any one of the represented organizations to revoke or change its individual ballot...)
- The distribution of voting contacts and number of organizations represented is as follows:

1 voter representing 22 Organizations	**4 voters representing 5 Organizations**
3 voters representing 10 Organizations	**10 voters representing 4 Organizations**
1 voter representing 9 Organizations	**28 voters representing 3 Organizations**
3 voters representing 8 Organizations	**147 voters representing 2 Organizations**
1 voter representing 7 Organizations	**3713 voters representing 1 Organization**

- Any future solution needs to both minimize staff involvement and provide improved election voting transparency

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Options

1. Continue to use BigPulse and the present "weighted voting" approach. While this option does provide ARIN with an turnkey system, it still requires integration by ARIN staff for data feeds and validation, and leaves the present suboptimal post-election reformatting of election reports

2. Eliminate the "weighted voting" approach, using either BigPulse or another third party voting system. This approach similarly involves ARIN staff integration for data feeds and validation and data feeds, but should eliminate the post-election report reformatting presently performed. It would require that each the voter to "pull" the ballot handle each time they cast a vote on behalf of an organization (voter contacts for multiple organizations would cast one ballot for each organization, rather than a weighted ballot)

3. Have ARIN staff to build an election solution into ARIN Online. The functionality is fairly straightforward, and would address the interface issues faced by voting contacts for multiple organizations. While transparent tabulation of results could be confirmed via a public ballot log, it is not possible to completely eliminate staff involvement (just as with option #1 and #2 above)

4. Outsource entire election to independent third party. ARIN would provide organizational information to an third-part election service, thus allowing them to conduct election nearly independent of ARIN staff. This approach would significantly reduce any ARIN staff related vulnerabilities.

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1. Continue to use BigPulse and the present "weighted voting" approach. While this option does provide ARIN with an turnkey system, it still requires integration by ARIN staff for data feeds and validation, and leaves the present suboptimal post-election reformatting of election reports

- Solution exists today, and is "adequate"
- Does require that election auditors either review reports which are suboptimal (based on voting contacts treated as organization) or reformatted reports that come from ARIN staff
- Predicated upon system and personnel integrity by both BigPulse and ARIN staff, or prompt detection of any anomalies
- Due to use of weighted voting to represent organizations, it cannot not provide integrity for mid-election ballot support (e.g. responsive to an organizations request to revoke or change their cast ballot)

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2. Eliminate the "weighted voting" approach, using either BigPulse (or another third party voting system). This approach similarly involves ARIN staff integration for data feeds and validation and data feeds, but should eliminate the post-election report reformatting presently performed. It would require that each the voter to "pull" the ballot handle each time they cast a vote on behalf of an organization (voter contacts for multiple organizations would cast one ballot for each organization, rather than a weighted ballot)

- Elimination of weighted voting (either via BigPulse or another vender) resolves reporting and mid-election integrity
- We researched 22 ballot system vendors [1] - change of vendor doesn't help with one ballot pull per organization; the requirement of a single voting contact voting for multiple organizations is unknown outside of ARIN
- Still predicated upon system and personnel integrity by both the vendor and ARIN staff, or prompt detection of any anomalies

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3. <u>Have ARIN staff to build an election solution in ARIN Online.</u> The functionality is fairly straightforward, and would address the interface issues faced by voting contacts for multiple organizations. While transparent tabulation of results could be confirmed via a public ballot log, it is not possible to completely eliminate staff involvement (just as with option #1 and #2 described earlier)

- Requirements are relatively straightforward
- User interface could require one ballot per represented organization but could also support automatic advancement to next represented organization and an option to "Populate with previous ballot selections"
- Support for member referenda could be included
- Could provide very straightforward reports for auditing (in addition to a signed public ballot log)
- Predicated upon system and personnel integrity of ARIN staff; associated risk of could be reduced (but not eliminated) via audit regime

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4. Outsource entire election to independent third party. ARIN would provide organizational information to an third-part election service, thus allowing them to conduct election nearly independent of ARIN staff. This approach would significantly reduce any ARIN staff related vulnerabilities

- Requirements are well-understood and common in corporate world
- Could provide email/postal ballot reminders and collate ballots received via postal response card, interactive voice response, and web-based responses
- Would require one ballot per represented organization; could be awkward and/or tedious for some voting contracts who represent multiple organizations
- Support for member referenda should be possible if needed
- Would involve additional cost for service (still to be researched)
- Predicated upon system and personnel integrity of the service provider – ARIN staff related risks nominal

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Significant Questions:

- Should ARIN be required to support the voting contact ability to cast a single ballot for multiple orgs (which goes against industry norms), thus limiting our software options?

- What level of independence does the staff need to have from the election process, recognizing that the underlying member data is created on an ongoing basis throughout the year? (Entire process in house, Process in house but balloting outsourced, fully outsourced)

Discussion?

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Additional Information

[1] Voting systems researched by ARIN:

Simply Voting, Survey & Ballot Systems, TrueBallot, Election Solutions, Polyas Solutions, ElectionRunner, BallotBin, ElectionBuddy, Balloteer, ElectionsOnline, VoteFair, EZVote, OpaVote, Election Services Co., Association Voting, Scytl, SimpleSurvey, EveryoneCounts, Election-America BallotPoint, Election Trust, ElectionZ, Electoral Reform Services