

July 19, 2018

Attendees:

John Wack
Harvie Branscomb
Kim Brace
Katy Owens Hubler
Herb Deutsch
Dwight Shellman
John McCarthy

Status Updates

- Cast Vote Record CDF
 - Current version needs improvement: desire to simplify further, concerns regarding complexity in tabulation and audit, probably won't get adopted as is, proposed updates are relatively easy to make – let's do it!
 - Revisiting use cases and assumptions
 - For easy import into tabulators, e.g. for RCV
 - Easy import into EMS, adjudication and audit apps
 - To serve as a general, interoperable format for archive and other purposes.
 - More here... revisit PowerPoint
 - Note: almost all complications with the CVR CDF results from handling manually-marked paper ballots. Marks can be ambiguous, margin, valid, valid only after human inspection.
 - The CVR CDF needs to show the scanner's "thought process" in decisions it makes based on scanner and contest rules.
- Current CVR CDF version summary
 - Current version contains one CVR version per ballot sheet scanned.
 - History is accounted for by tagging each mark with a status. It gets complicated because it accounts for changes made by the scanner, changes made as a result of adjudication. Annotations can apply to:
 - Individual marks, whether made by voter or scanner
 - Entire contest selection
 - Entire contest
 - Entire CVR
 - Feeling that it could be tough to audit because it may be hard to see what the changes are, recreate the actions
- Summary record
 - With minor modifications the current CDF could also serve as the summary report from the scanner. Is this useful? Election results reporting CDF can also serve as a summary record. Should a scanner device have to support two CDFs? Answer may depend on what the summary record contains besides vote counts and IDs of election.
 - What else does the summary record contain that isn't in 1500-100. Will have a dedicated phone call on this.
- A change in terminology

- Current CVR CDF uses “mark” to mean both (a) marks made by humans on the ballot as well as (b) generated markings made by the scanner in the CVR.
- In the next version “mark” is more narrowly defined as being made solely by a human on a piece of paper; CVRs do not contain marks, paper ballots contain marks.
- Indications of contest selections made by the scanner as it scanned the paper is now called Contest Selection Indications (CSI).
- For simplicity, multiple versions of a CVR
 - Current version maintains one CVR per ballot sheet and you must read statutes to determine its history.
 - A less complicated method is to include multiple versions of a CVR:
 - Original – as scanned, before election results, contains only indications of mark quality, not tabulatable.
 - Modified – after election rules are applied, contains indications as to whether certain CSIs are countable or not, overvotes/undervotes, generated CSIs due to contest rules, tabulatable
 - Adjudicated – contains changes as a result of adjudications, tabulatable.
 - Or, the modified version could just be tagged with adjudications.
 - Important thing is preserving the scanner’s interpretation of the original so that it’s not overwritten.
- Simplify the way in which various status flags are used.
 - Due to complexities of interpreting hand-marked paper ballots, current version maintains various statuses for:
 - CSIs – ambiguous, marginal, valid countable, was generated
 - Contest selections – overvoted/undervoted, needs adjudication, adjudicated
 - Contests – overvoted/undervoted, invalidated, adjudicated
 - Entire CVR
 - Status flags are currently used for tabulation, summary stats, and adjudication.
 - Almost everything is optional, so there are ways to accommodate different types of devices (all-electronic, for example).
 - Proposal is to make statuses informative and not needed for tabulation:
 - For tabulations, a simple Boolean-type flag to indicate if a CSI is countable or not or needs adjudication.
 - Audit, adjudication, or stats collection can look further at the statuses as needed.
- Why maintain statuses?
 - Mainly useful for the modified version of the CVR
 - Also for creation of summary statistics and auditing.
 - Do we really need all of these statuses?
- CSI status – what is necessary?
 - What we current have:
 - Does it represent a valid mark made by a voter?
 - Countable?
 - Not countable because it didn’t observe election rules?
 - Is it a machine-generated CSI and thus countable?

- Is it marginal?
 - Is it ambiguous and needs adjudication?
 - Is it adjudication-generated and countable, or adjudication-invalidated and not countable?
 - Is it a write-in?
 - Anything else?
 - Maybe not all statuses are necessary for tabulation, but are necessary for audits.
 - Kim: at least want to have a date/time stamp.
 - Is this the right set of questions? Do we need others? Are there too many?
 - Herb: what's the difference between marginal and ambiguous
 - Maybe don't need ambiguous – marginal covers it.
 - John McCarthy: marginal marks are made outside the target area.
 - John D: marginally machine readable is the term Election Modeling decided on.
 - Harvie: the point of this is to offer transparency on the adjudication that happens during tabulation and also during the auditing process.
- Contest selection status – what is necessary?
 - Overvoted or undervoted? Could be determined by looking at the CSIs.
 - Was it entirely invalidated because of contest rules?
 - Does it require adjudication, e.g. a write-in?
 - Was it added or invalidated because of adjudication?
 - Is it a write-in?
 - Anything else?
 - Dwight, with the more expansive view of “audit” feels that these provide useful information.
- Contest status – what is necessary?
 - Is it overvoted or undervoted? Could also be determined by looking at the CSIs or contest selections.
 - Was it machine generated or invalidated? Again, for variations with multiple marks possible, it could be both.
 - Ditto for adjudication?
 - Was it voted or not?
 - Different states handle blank ballots in different ways, so may be hard to incorporate those.
 - Herb: a blank ballot is just an additional statistic.
 - Is there a CVR created for a blank ballot? yes.
 - Anything else?
- CVR status – what is necessary?
 - Is it the original or modified version?
 - Is it the version that gets tabulated?
 - Was it tabulated and included in the device summary?
 - Does it need adjudication?
 - Was it adjudicated?
 - Is it blank?
 - Is it not valid in some other way?

- Anything else?
 - Harvie: it's important to know in the course of processing and auditing ballot – it has been reviewed by a person. Also allow a voter to indicate that it needs to be hand-reviewed because they know there is something strange – a scribble or a cross-out, etc.