

LEGACY SYSTEM SHORTCOMINGS

1. Adams County (Premier – GEMS):
 - a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures):
 - b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: **Yes**
 - c. Formatting or manipulating ballot columns:
 - d. Associating particular ballot styles with particular voting devices
 - e. Importing or accepting images:
 - f. Importing or recording ballot audio
 - g. Ballot size and ballot page options:
 - h. Copying or deleting databases from prior elections
 - i. Ballot text on DREs varies from text on paper ballots
 - j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute
 - k. Editing ballot order or hierarchy
 - l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups:
 - m. Proofing ballot styles: **Yes**
 - n. Reporting functionality:
2. Boulder County (Hart – BOSS)
 - a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures): **Yes this can and has been an issue. We work with our entities ahead of time to limit the impact. Candidate Label – 20 characters, including spaces. Currently, name must fit on the results tape that are printed from the AV-OS and AV-TSx.**
 - b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: **True- in addition, adding extra characters and images to the ballot significantly increases print time. This is an important factor to keep in mind in VSPCs and printing ballots on demand on a busy election day. Currently our equipment is does not work like MS word. It would be preferable if we could input directly from a product like MS and not have any formatting issues.**
 - c. Formatting or manipulating ballot columns: **Yes this can cause issues there are some tools that can be used to help, however a new template can be required at the last moment if we cannot get the ballot to layout properly. An example would be pushing a**

contest to the second page even though there appears to be room on the front. This can be an issue if it is a short contest and the only one that is on the back page.

- d. Associating particular ballot styles with particular voting devices
 - e. Importing or accepting images: As mentioned above, can add significant time to printing. Adding 30-40 seconds per side on a ballot can create delays on Election Day. In Boulder County Presidential Elections, we can have a 4 page (2 sheet) ballot on 11 by 17 paper.
 - f. Importing or recording ballot audio
 - g. Ballot size and ballot page options: We are looking for a system that can accommodate an 11 by 17 page sheet. It is important to keep to 2 sheets as the additional resources to process, track, and account for 3 sheet ballots are exponential in time and cost.
 - h. Copying or deleting databases from prior elections
 - i. Ballot text on DREs varies from text on paper ballots
 - j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute
 - k. Editing ballot order or hierarchy
 - l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups: For many of these items one just gets use to doing it the way that works and we often forget the work involved as we just budget in time to do the work. Making these systems easier would be very beneficial.
 - m. Proofing ballot styles:
 - n. Reporting functionality: This is an area we are expecting much improvement in our next voting system. This area must make auditing much easier to gather the data. Accessible data is critical for a proper risk limiting audit. Getting raw data out of the system while ensuring anonymity is important in the next voting system. Needs to produce a "set" of predetermined reports to complete the canvass.
3. City and County of Broomfield (Premier – GEMS)
- a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures): Has not been a problem.
 - b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: This has only been a problem for candidates with very long names (e.g. Gov/Lt. Gov) or those that reference term limits. In those cases, it is difficult to fit the entire name next to the oval without manipulating the name somehow.
 - c. Formatting or manipulating ballot columns: Manipulating columns can cause text to "shrink" in order to fit the column.

- d. Associating particular ballot styles with particular voting devices: **Has not been a problem.**
 - e. Importing or accepting images: **Has not been a problem.**
 - f. Importing or recording ballot audio: **Difficulty equalizing volume levels. The system instructions are much louder than the recorded audio.**
 - g. Ballot size and ballot page options: **Has not been a problem yet. The problem really has to do with the number and length of TABOR questions compelling us to compromise readability in order to fit all ballot content onto 1 card.**
 - h. Copying or deleting databases from prior elections: **Has not been a problem.**
 - i. Ballot text on DREs varies from text on paper ballots: **Has not been a problem.**
 - j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute: **Has not been a problem. However, it would be great if the system had a logic such that the order of the ballot content defaulted to the statutory order.**
 - k. Editing ballot order or hierarchy: **Has not been a problem.**
 - l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups: **Has not been a problem.**
 - m. Proofing ballot styles: **Has not been a problem.**
 - n. Reporting functionality: **Has not been a problem.**
4. City and County of Denver (Sequoia – WinEDS):
- **BPS**
 - **No easy way to import data into BPS without the support of the vendor.**
 - **Cumbersome Access relationship database. Many tables and queries, many that aren't even utilized when creating ballots.**
 - **All text within the Start and Stop bars of the ballot are generally static. You must format contests and propositions according to a strict ballot design layout, 1 column, 2 column, or 3 column.**
 - **Takes anywhere between 30 seconds and 5 minutes to create a Visio document for each style. Then you still must print each Visio document to a PDF, which may take up to 15 seconds per document.**
 - **Due to the hodgepodge nature of the application, there are multiple bugs throughout.**
 - **You must constantly restart the application for changes to take effect.**
 - **WinEDS**
 - **No easy way to import data into EDS without the support of the vendor.**
 - **Many reports in the reporting module simply do not work.**

- Contest order during initial setup is fairly buggy. Whenever you try to make a change to the order of a contest, it rolls the contest order of the other contest, making for multiple changes for just one contest.
- Many items would be easier if you could access the SQL tables that run WinEDS. For example changing the style number and activation code for each ballot style.
- Must restart the application multiple times during election creation for formatting changes to take effect.
- Character limitations for report names (25 characters)
- EDGEII
 - Many formatting issues exist between what the EDGE can display and what you need it to. One example is bullet points in a proposition. You cannot use the standard bullet point in WinEDS, you must use a symbol.
 - Too many seals.
 - Too heavy and cumbersome for an election judge to setup efficiently on the first day of voting.
 - Touch screen is easily damaged during shipping.
 - Hard to include graphics in ballot face on DRE as well as different colors.
- Other
 - In addition to the above deficiencies, each subsystem within this system must be tested and proofed for every election. This makes for a great duplication of effort.

5. Delta County (Hart – BOSS):

- a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures)
- b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible **Bullets are complicated with the Hart Intercivic. Have to use pipes which can sometimes loose ballot text after audio has been processed. Templates are set in the ballot generation and not very flexible.**
- c. Formatting or manipulating ballot columns **Templates are set in ballot generation. Not much flexibility**
- d. Associating particular ballot styles with particular voting devices **N/A**
- e. Importing or accepting images **Seems to work fine**
- f. Importing or recording ballot audio **Seems to work fine**
- g. Ballot size and ballot page options **Templates are set in ballot generation**
- h. Copying or deleting databases from prior elections **No issues**

- i. Ballot text on DREs varies from text on paper ballots **Unable to put ballot language on a paper ballot and not a DRE ballot Example Mail ballot Warning. VBO characters are limited and it truncates voter names.**
 - j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute **No Issue**
 - k. Editing ballot order or hierarchy **No issue**
 - l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups **No issue**
 - m. Proofing ballot styles **ballot styles are not justified until the ballot is accepted leaving the ballot pdf to look sloppy, however there are ballot proofing reports that can be proofed for ballot language.**
 - n. Reporting functionality **No issues**
6. El Paso County (Premier – GEMS)
- **Long races that require more than one column have to be split into multiple races. The "shadow race" function allows for paper ballot layout but creates a non-counted race on the DRE. The voters see a "No vote cast" warning in the summary of a fully voted touchscreen ballot.**
 - **DRE instructions are built into the system and not editable. With the frequent changes from one election to another this feature does not allow for us to communicate important information clearly to touchscreen voters.**
 - **Many reports are rearranged versions of each other so there are a large number of reports displaying the same information.**
 - **A more robust administrator report system for post Election Day use would cut down on the time it takes to track down and correct mistakes.**
 - **The use of image files (signatures, instructive diagrams, etc.) is limited due to the pixelation or blur that occurs when inserting the file. When printed on the ballot it looks faded and much lower quality than the text on the ballot.**
 - **GEMs does not have the ability to universal format ballot content after the initial setup. When an election is set up there is a setting that formats text for races, headers and footers. Once ballot content is created, however, there is not a way change all of the same content type. For example, if we change the font or style of one race all other races must be changed individually.**
7. Douglas County (Hart – BOSS):
- There are only 2 system design issues in our legacy voting system that we struggle to work around.**

- Issue we have difficulty with ballot templates and getting all our issues onto a single page sometimes.
- The Hart Voting system requires audio import before you can lock down the database. Since our ballot language isn't certified until 57/60 days prior to an election, creating the ballot (both text and audio), proofing both text and audio, internal and external LAT conducted before UOCAVA ballots must be mailed is a struggle.

8. Eagle County (Hart – BOSS):

- Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures): All of these limitations are problematic from time to time with hart. In particular, limitations of ballot text quantity on the DREs which requires the splitting of contests to make all the words fit.
- Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: Hart system has no flexibility at all - no bold, font change, center, borders, bullets and limited spacing options.
- Formatting or manipulating ballot columns: Hart has no ability to make different ballot styles format unique. Can't put a question or race in a specific column or on a specific page.
- Associating particular ballot styles with particular voting devices:
- Importing or accepting images:
- Importing or recording ballot audio: Very difficult and clumsy with Hart, also variable volume gets recorded despite consistent recording voice.
- Ballot size and ballot page options:
- Copying or deleting databases from prior elections:
- Ballot text on DREs varies from text on paper ballots:
- Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute:
- Editing ballot order or hierarchy:
- Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups:
- Proofing ballot styles: Hart doesn't allow on screen proofing, and we must go through great complicated steps and manipulations to get paper copies of the entire ballots. It's cumbersome, and has high potential for disaster by finalizing the only copy of a database, which would result in need to completely rebuild from scratch any election.
- Reporting functionality

9. Garfield County (Hart – BOSS):

- We have difficulty with ballot templates and getting all our issues onto a single page sometimes.
- The Hart Voting system requires audio import before you can lock down the database. Since our ballot language isn't certified until 57/60 days prior to an election, creating the ballot (both text and audio), proofing both text and audio, internal and external LAT conducted before UOCAVA ballots must be mailed is a struggle.
- After recording the audio and find a typing error the audio goes away and you have to find the audio file and import it back in.

10. Gilpin County (Hart – BOSS):

- Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures): **No**
- Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: **Yes**
- Formatting or manipulating ballot columns: **Yes**
- Associating particular ballot styles with particular voting devices: **No**
- Importing or accepting images: **Yes**
- Importing or recording ballot audio: **Yes**
- Ballot size and ballot page options: **Yes**
- Copying or deleting databases from prior elections: **No**
- Ballot text on DREs varies from text on paper ballots: **No**
- Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute: **No**
- Editing ballot order or hierarchy: **No**
- Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups: **No**
- Proofing ballot styles: **No**
- Reporting functionality: **Yes**

11. La Plata County (Premier – GEMS)

- Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures): **On the result print out from an AccuVote there is limited spacing for contest/race titles so abbreviations must be used to ensure correct identification.**

- b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible: **Yes, extremely limited on formatting capabilities**
- c. Formatting or manipulating ballot columns: **Fairly easy to format columns**
- d. Associating particular ballot styles with particular voting devices: **It was difficult in the past but due to 1303 it has been simplified and now all devices take all styles**
- e. Importing or accepting images: **Unable to perform this function**
- f. Importing or recording ballot audio: **Unable to import audio. Recording is OK.**
- g. Ballot size and ballot page options: **We have never had a ballot that would cause an issue with our options**
- h. Copying or deleting databases from prior elections: **Currently have to open it and resave with a new name. Deleting is possible**
- i. Ballot text on DREs varies from text on paper ballots: **Yes, and has potential to cause issues.**
- j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute: **Can be very cumbersome and time consuming. Not very user friendly.**
- k. Editing ballot order or hierarchy: **Can be very cumbersome and time consuming. Not very user friendly.**
- l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups: **Can be very cumbersome and time consuming. Not very user friendly.**
- m. Proofing ballot styles: **Fairly easy to do.**
- n. Reporting functionality: **Unable to export in any other format other than a PDF. Makes managing data difficult. Precinct Results report are extremely large and difficult to interpret.**
- Additional comments:
 - **The security tools (encoders and voter cards) are very hard to work with in a live election and hard to train judges**
 - **Instruction manuals are very vague and may require multiple calls into help desk to interpret.**
 - **Without historical (passed down employee to employee) knowledge of the system it would be extremely difficult to create an election.**
 - **No ability to rename ballot styles in the system (automatically assigns card 1, card 2, etc.)**
 - **Overall we are very limited on what we can do to customize anything in the ballot building process.**

12. Larimer County (Premier – GEMS)

- Options to change font size and font type universally throughout headers, races and issues after initial setup of options.
- Options for formatting to allow bullets.
- Look at entire ballot content instead of like fronts/back (ie. front of ballot may be the same on several styles, but the back is different and it needs to identify as such).
- Functioning ballot footers.
- Option for Race Headers to automatically appear at the top of columns.
- Ability to choose options for reporting (ie. Ad Hoc –similar to Crystal reports).
- Automatically suppress under 10 by race.
- Ability to create property owner ballots.
- Reporting by Style and Precinct without manipulating database.
- Import from SCORE II to tabulation system in statutory order.
- Import from SCORE II to tabulation system with precinct numbers and splits numbered in the same convention that they appear in score.
- Report to identify ballots to be used for Post Election Audit once equipment is selected.
- Automatic Logic and Accuracy spreadsheet to be used for Logic and Accuracy with option to choose progression.
- Easier upload to Election Night Reporting.
- Report to identify location of write-in ballots.
- Automatic redaction of scanned ballots.
- Option to increment font size of TSx.
- Electronic option for duplication of ballots (currently duplicate on to paper or TSx).
- Both server and each unit have minimum of 3 hours of operation on battery power.
- Import from tabulation to voter registration to match up ballots styles.
- Wish list: Computerized hardware diagnostic testing.
- Wish list: An efficient way to recharge or replace battery on equipment.

13. Mesa County (ES&S – Unity):

- Our Unity system has the limitations you might expect of a complicated system that was built almost 2 decades ago. Many of the complications are because of its age (the type of media used, for example, is Zip Disks). A couple specific complications we see are:
- Needing separate text files for DRE v. Paper ballots. You have to completely finish the paper ballots and NOT re-merge those ballots or your DRE formatted files will over-write the paper ballot files.
- Programming an election can take up to 5 different modules. If you need to correct an error, you have to fix it in the first step and re-import to each of those 5 modules.
- Reports could not be exported. Only printed.
- Statistical counters had to be re-set often during programming or the election would have errors.
- File navigation was clunky, having to navigate to multiple places to find the right file.
- DRE programming had to be completely wiped and started fresh if you found an error and had to re-import the files.
- We were unable to create our own audio ballots.
- When importing results, one wrong click could result in wiping all the results (import v. replace).
- District relations happened in multiple different screens.
- Space limitations in DRE titles.
- Importing previous elections (when we had to switch computers) was problematic, and resulted in losing some formatting.

14. Montezuma County (Premier – GEMS):

Issues with ballot creation:

- Formatting, editing or manipulating ballot column,
- Ballot text on DREs varies from text on paper ballots,
- Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups,
- Copying or deleting databases from prior elections especially on the DRE
- The entire DRE programming is complicated and confusing not only for the programmer as well as the election judges

15. Pitkin County (Premier – GEMS)

- Formatting text is inflexible
- Formatting or manipulating ballot columns
- Ballot size and ballot page options
- Ballot text on DREs varies from text on paper ballots
- Creating, editing and associating districts, precincts, precinct splits or voter/reporting groups
- Reporting functionality
- Manipulating the database for coordinated elections which are not required to report by precinct
- Importing information from SCORE results in a very clunky database with significant extraneous information
- Complications changing the security keys; security keys easily reset to the default, not easily reprogrammed to protect with a new election specific security key
- Associating correct ballot style/card/sequence combinations with the correct vote centers (e.g. In Person or Mail Ballot) so the ballots are properly read by scanners
- Locked key cards that cannot be accessed or erased
- Inability of program to distinguish between types of equipment (OS vs TSX) when communicating
- Significant issues with exporting results to the election night reporting software and having to build the ENR reports manually due to complications with defining Counter Groups
- The need to reset, create, track and apply multiple PINs for various processes in the same election

16. Rio Blanco County (Hart – BOSS):

We are very satisfied with the Hart voting system we have now. Slight issues are as follows:

- Formatting text difficult or inflexible - Problem especially with fonts but can be dealt with.
- Importing or recording ballot audio - Minor issues regarding quality & ease of recording.
- Reporting functionality - Audit Logs could be easier to manage.

17. Weld County (Premier – GEMS)

- a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures):
- b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible:
- c. Formatting or manipulating ballot columns:
- d. Associating particular ballot styles with particular voting devices
- e. Importing or accepting images:
- f. Importing or recording ballot audio
- g. Ballot size and ballot page options:
- h. Copying or deleting databases from prior elections
- i. Ballot text on DREs varies from text on paper ballots
- j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute
- k. Editing ballot order or hierarchy
- l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups: **Creating special district/ property owner ballots is difficult in GEMS.**
- m. Proofing ballot styles:
- n. Reporting functionality: **Static reports should be at a minimum and counties should be able to query their own reports.**
- Additional comments: **Options A, B, C, I, L and N apply to Weld County.**
 - **Imports coming into GEMS from SCORE are flawed. The import should have districts, precincts, and splits. When the candidates are imported into GEMS, it creates a lot of unnecessary work for Weld County.**
 - **Managing a two page ballot?????????**
 - **Our system doesn't offer a high speed scanner for Central Count.**
 - **Problems defining where the headers and footers will appear on the ballot.**
 - **Party endorsements come over distorted on the ballot proof.**
 - **Will score marks over an oval, box, or connect arrow cause a false positive on a race or a candidate that had not received a vote?**

18. Template

- a. Maximum character limitations for portions of the ballot (ballot headers & footers; contest headers & footers, ballot titles; voter instructions; candidate or party names; ballot measures):
- b. Formatting text (bold, font, center, borders, bullets, spaces) is difficult or inflexible:
- c. Formatting or manipulating ballot columns:
- d. Associating particular ballot styles with particular voting devices
- e. Importing or accepting images:
- f. Importing or recording ballot audio
- g. Ballot size and ballot page options:
- h. Copying or deleting databases from prior elections
- i. Ballot text on DREs varies from text on paper ballots
- j. Organizing participating jurisdictions or offices so they appear in a logical order, or as required by statute
- k. Editing ballot order or hierarchy
- l. Creating, editing and associating districts, precincts, precinct splits, or voter/reporting groups:
- m. Proofing ballot styles:
- n. Reporting functionality: