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Sent: Wednesday, July 10, 2002 2:33 AM
To: Funkhouser, Linda; Harrell, Travis
Subject: Arapahoe BN resolution issues- record ballots menu unavailable

Importance: Low

The Ballot Now issues in Arapahoe are still alive and kicking. In addition to the scanner-driver problem we had also reported an issue with Ballot Now where the record ballots menu option was unavailable after starting Ballot Now and after scanning. Even when the resolution process had begun, and we had reports to that effect, the record ballots menu option was seen to be unavailable. After the initial report several days ago and subsequent troubleshooting this evening, with the long suffering assistance of Linda and Woodrow, we've have identified the following :

- 1) The issue appears in Ballot Now 1.4 and may appear in other versions, though it hasn't been seen before
- 2) The issue can appear immediately upon opening a new Ballot Now database, and can appear when Ballot Now has been open for some time and initially had the option available, and even tested
- 3) The issue can be resolved by bleaching Ballot Now, but this is not a permanent fix. The problem can reoccur on the same system after an indeterminate time frame
- 4) The issue is unrelated to a single Boss Database, and unrelated to any single card, or registry settings that we are aware of
- 5) The issue is not a rights or permissions issue, and is unrelated to our standard setup procedure, or any random variation in the setup process.
- 6) The issue is unrelated to the mapping of the Z drive or sharing of the BN directory
- 7) Cards were recorded in test mode- I don't know if Woodrow has done any testing in election mode (I've tested this and it shouldn't be an issue here)
- 8) The issue was tested with more than one Ballot Now user
- 9) The issue is unrelated to any single Ballot Now installation
- 10) As bleaching is a temporary fix it appears to be a problem with the BN security database that can reoccur at random intervals. But again it isn't simply a corrupt set of database or security files, as it occurs on a second BN system.

Currently, we are unable to proceed without a basic understanding of what conditions can create the record ballots option to be unavailable. Until we have this information we cannot troubleshoot. We can only try random changes and hope to affect the problem, but even if we happened to hit on a potential fix, without a basic understanding of what can cause the problem, we cannot evaluate how valid, consistent, or secure a "fix" would be. This issue needs to be referred to our engineers to give us this information so that we have a means both to troubleshoot and assess how valid a solution is, or to determine whether this needs to be resolved by engineering entirely.

From the information we have gathered from Woodrow so far, I don't believe we can conduct an election in Arapahoe until our engineers can outline the circumstances under which this record menu option could be unavailable. Having to bleach the database prior to and after every use of

Ballot Now cannot be regarded as an acceptable option. Essentially it tells them that Ballot Now is unreliable, that the database is unstable, and that they cannot save the Ballot Now information once it's been resolved, nor can they leave the ballots partially unresolved for the next day, or potentially the next hour. If they ask whether they might have to bleach the database in mid resolution, we cannot even tell them it's unlikely.

WS

Initial observations :

Woodrow reported an issue where the record ballots menu option was unavailable, though he had been using the system the day before and had even resolved some ballots. He had a report showing that this had been partially completed, and had come in that morning to continuing scanning and resolving batches. The record ballots menu option was greyed out. We closed and restarted Ballot Now, it showed 1 database available, we opened the database and the record ballots option was unavailable. We brought up a scan batch report from the reports menu and it didn't show any of the previous batches. We scanned another batch, which showed as scanned and saved but didn't give us a record menu option for resolution. I checked to be sure that the Z drive was mapping, available, and that the Ballot Now directory was shared. During this process we found a second directory in the Ballot Now folder that corresponded to a database, though Ballot Now was only showing one. Woodrow said that the pc had only been used for testing, not for the election master, but that the pc had never shown two databases as being available. We rebooted the pc, tried to reenter Ballot Now and scan again, and got an exception error and hard locked the pc.

We rebooted the pc again, and Ballot Now still showed only 1 database. Upon entering Ballot Now we checked the reports, and they now showed all of the previous batches plus the latest one we had scanned. The record option was still unavailable. We exited Ballot Now and reentered as the BNADMIN user, but it had no effect on the original problem.

Since our Harris use of Ballot Now and in-house testing hadn't uncovered a similar issue, and the report failure and database failure suggested that it was an internal Ballot Now issue of some kind, I elected to bleach Ballot Now to attempt to fix the issue.

After walking Woodrow through the bleaching process we restarted Ballot Now and were able to access the Record Ballot menu. (he copied forward the test database and recreated a card for this). Some time later it failed, after a scan attempt, I had him burn a card from a new test database and test it after a second bleaching, and it worked initially, and I advised him that we would need to refer the issue and pc to our Colorado office to identify the possible causes for this type of issue. (This was done on our loaned training machine, the cards were generated on their "servo pc").

This worked for him for several batches, after which he left for the day. The next morning, without having rebooted or made any changes, he attempted to scan ballots again, and noticed that the Record Ballot option was once again unavailable.

Recent observations :

The return of the newest Arapahoe pc from it's scanning issue afforded Arapahoe an opportunity to test the scanner. Although it failed with the same issue it had previously, Woodrow discovered that the database he opened on the new machine exhibited the same failure of the record menu option. Note that this machine was configured in a substantially different way from the training loaner pc, and had extensive changes in it's setup (although the login was currently configured for the administrators group, so again, it doesn't appear to be a rights or user specific issue). These setup variations suggest a ballot now specific issue although it isn't related to a particular set of files, so it appears to be a programming issue rather than software corruption. Tonight we tried creating a different test database, creating a new card, and testing that on the newest machine. Even with a different database we encountered the same problem in Ballot Now, so the issue isn't related to any "corruption" or setup issues with a particular Boss database. I double checked the

software versions and we validated our card settings, so it doesn't appear to be related to any known registry, card, software, or database issues.

Linda was also working with Woodrow to reverse the pc's used in the Boss/Ballot Now processes and retest the bleaching fix, but this information isn't regarded as necessary for submitting the issue to Colorado as we've already demonstrated it isn't database specific, and since the bleaching "fix" seems to be temporary and unreliable.