

Product Advisory Notice

Product Type/Version:
GEMS versions 1.20.2 and earlier

Advisory #: PAN2008-013
Revision: 1.0
Date: 08-19-2008

Distribution:

- √ Premier Election Solutions Associates
- √ All accounts
- √ All states

NOTE: The information contained in this document is for reference only. It is recommended that each jurisdiction consult with their state election authority in respect to applicable laws, regulations, procedures and other guidelines, which may impact how this information is used.

Summary: Occasional GEMS poster sharing violation can affect memory card uploads

Description:

This Product Advisory Notice updates PAN 2008-009, issued in May 2008, and reflects additional analysis of the above referenced condition. Premier Election Solutions has determined that a sharing violation may occur in the GEMS poster during the simultaneous uploading of results from multiple memory cards resulting in the contents of the affected memory card(s) not being posted to GEMS. Note that in this situation, the AVServer console will indicate the affected upload of the memory card(s) has been successful, (green arrow), when the upload has not, in fact, been successful. Exiting the AVServer console and restarting it will refresh the display and will accurately indicate whether any card has failed to be uploaded. Premier has now determined that this event can occur whether or not on-access antivirus software is enabled at the time of upload. Although enabled on-access antivirus software may generate this conflict, it is not the sole contributor to this event.

Recommended Action(s):

To ensure all memory cards have been successfully uploaded and posted, exit the AVServer, wait for all poster jobs to complete by checking the Poster console, then restart the AVServer and verify all memory cards are shown as uploaded. If any memory cards show as not uploaded, the operator should re-upload them again and repeat this procedure until all memory cards are successfully uploaded.

Furthermore, as Premier Elections Solutions recommends in the "GEMS Election Administrator Guide," basic election canvass procedures should be used at all times. This includes, as a minimum, the viewing and/or printing of the "AccuVote-OS Status" and "AccuVote-TS Status" reports to ensure all memory cards have been uploaded, verifying the "Cards Cast" shown on the "Election Summary Report" matches the expected value from the pollbooks, and checking the error logs for any anomalous conditions.

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Technical Background:

The GEMS poster works by receiving concurrent uploads from the memory cards and then saving that data in temporary files for posting to the election database in a serialized manner, i.e. one at a time. This design is used to optimize the database access performance as well as the upload of data performance.

The issue identified is a logic error that allows the poster to attempt to post a file that is still being received when two or more files are received in sequence, and the first file takes longer to save than the second file. If a sharing violation occurs, the posting of the first file is the one affected. Note that files typically take very few milliseconds to save, whereas large files, with large numbers of votes, can take up to 100 milliseconds.