

Hash Check Procedure ES&S DS850



40 North Pearl St.
5th Floor
Albany, NY 12207
April 15, 2014
Version 1.0

Table of Contents

Overview	3
1. ES&S DS850 Hash Check Procedure	3
2. Getting Started	3
2.1 Supplies	3
2.2 Set Up – Hardware	3
2.3 Set Up – Software.....	4
3. DS850 Central Count Hash Check Procedure	5

OVERVIEW

Each County Board of Elections (CBOE) must perform a hash check on each voting system to ensure that the same firmware / software that was authorized by the ITA is currently installed and that no other unauthorized software / firmware is present. The hash check procedure will need to be performed during each Pre-Qualification Test and Maintenance Test (when needed).

1. ES&S DS850 HASH CHECK PROCEDURE

Reimage the CF Card

CBOE will reimage the CF card on each central count system using the current process (contact New York State Board of Elections (NYSBOE) regarding any upgrade questions).

1. Verify the latest software/firmware version from NYSBOE
2. Verify the latest hash value from NYSBOE
3. **Perform the hash check** on the image provided by NYSBOE and it matches the value provided
4. **Perform upgrade** using the software/firmware from step #1 above using the current process (contact NYSBOE regarding any upgrade questions)
5. **Perform upgrade on all DS850 central count** scanners in county inventory

2. GETTING STARTED

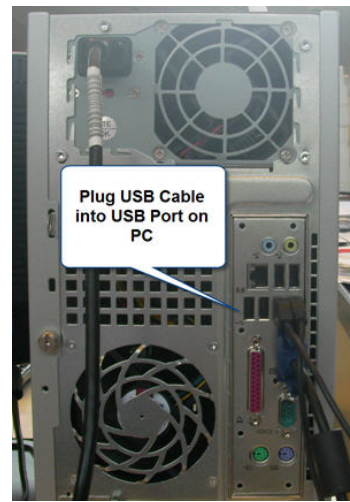
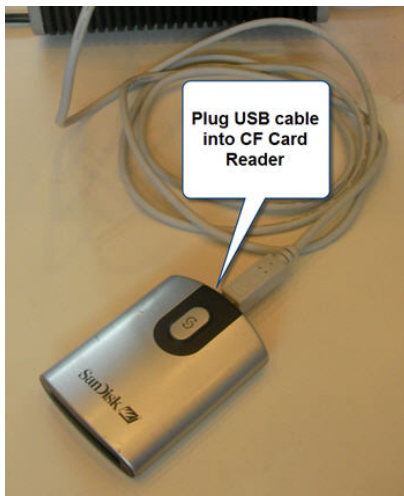
2.1 Supplies

The following supplies will be required in order to conduct a hash check on the ES&S DS850 central count scanner.

- 1 Compact Flash (CF) Card
- 1 CF Card Reader
- 1 USB Cable
- 1 PC with USB Port
- HashCalc Application file provided by NYSBOE
- 1 Security Seal

2.2 Set Up – Hardware

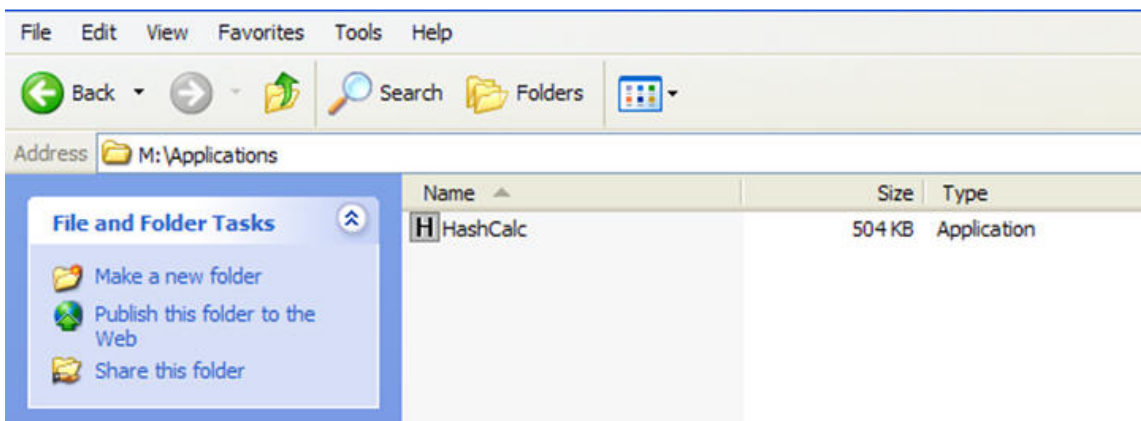
Connect the CF Card Reader to the PC using a USB cable. The USB port on the PC may be located **on the front OR on the back**. Plug the CF Card Reader into available USB port on PC. See screenshots.



2.3 Set Up – Software

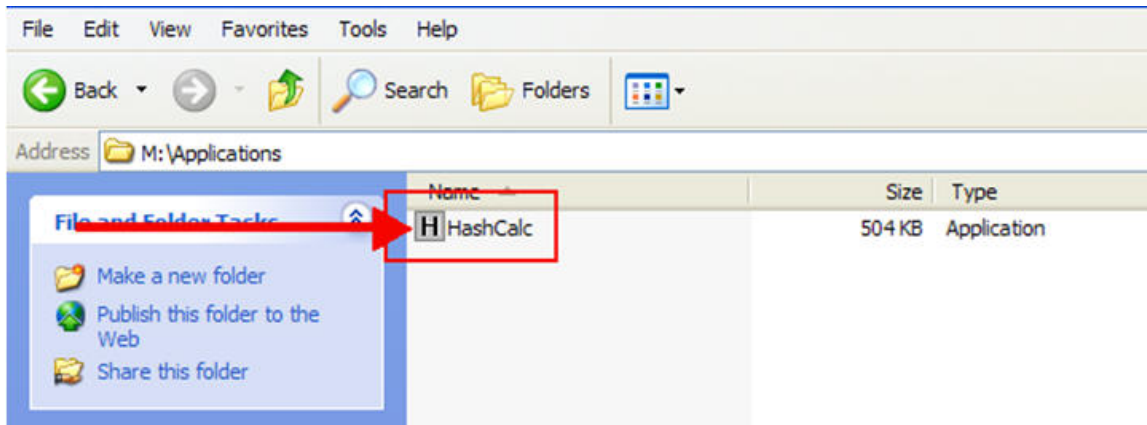
“Copy” the HashCalc application from the email provided by NYSBOE and “Paste” the HashCalc application into desired directory. If you have any questions, please contact NYSBOE.

Note: the PC screenshots contained within this document display Microsoft Windows XP.

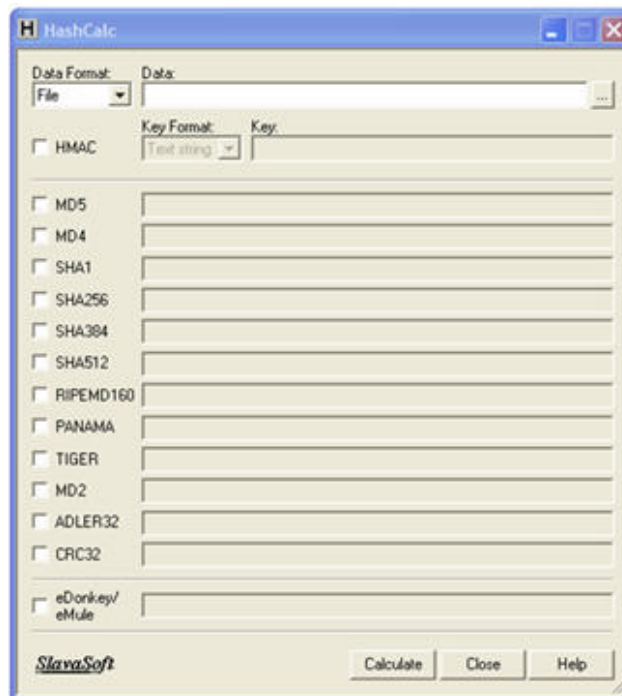



3. DS850 CENTRAL COUNT HASH CHECK PROCEDURE

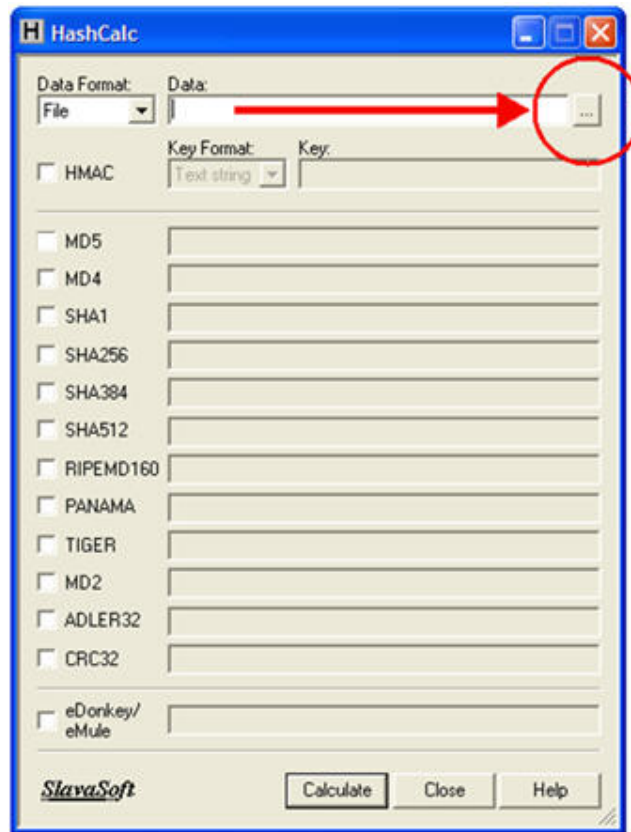
1. A hash check is required if NYSBOE notifies CBOE of a software/firmware update **OR** the Security Seal has been compromised.
2. NYSBOE notifies CBOE to access NYSBOE FTP site to download authorized software/firmware image. If you have any questions please contact NYSBOE.
3. CBOE performs hash check on image to verify downloaded software/firmware image is valid. Open HashCalc application by “Doubling Clicking” the HashCalc icon.



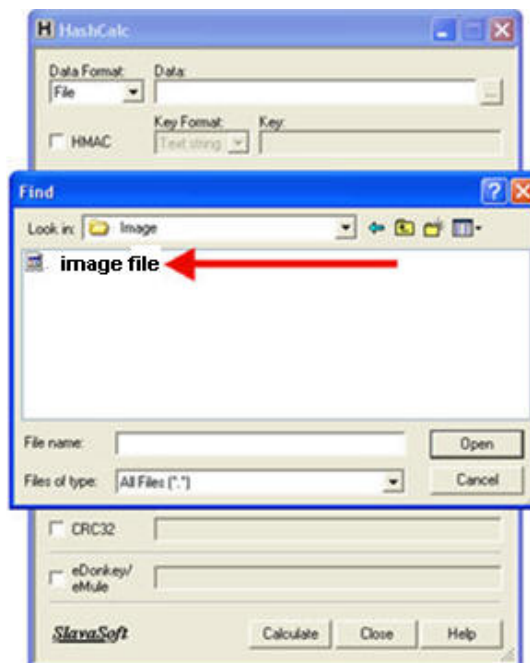
4. HashCalc application will launch and the following screen is displayed.



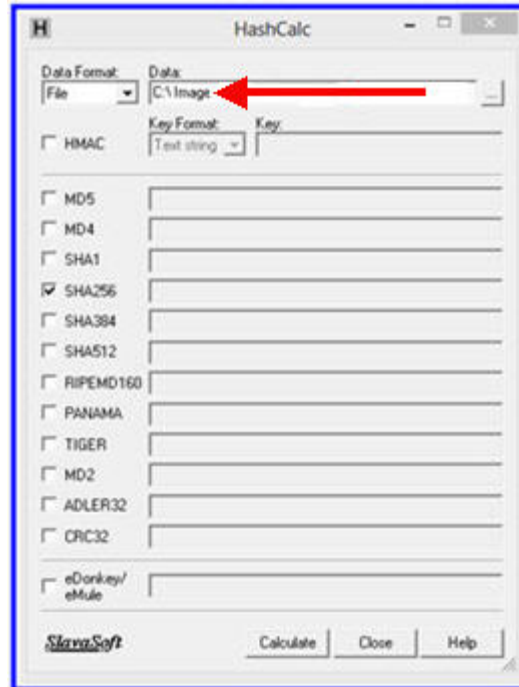
5. Browse and point to the authorized software/firmware image file that was downloaded from the NYSBOE FTP site. “Click”  to browse to desired file.



6. Select authorized software/firmware image file.

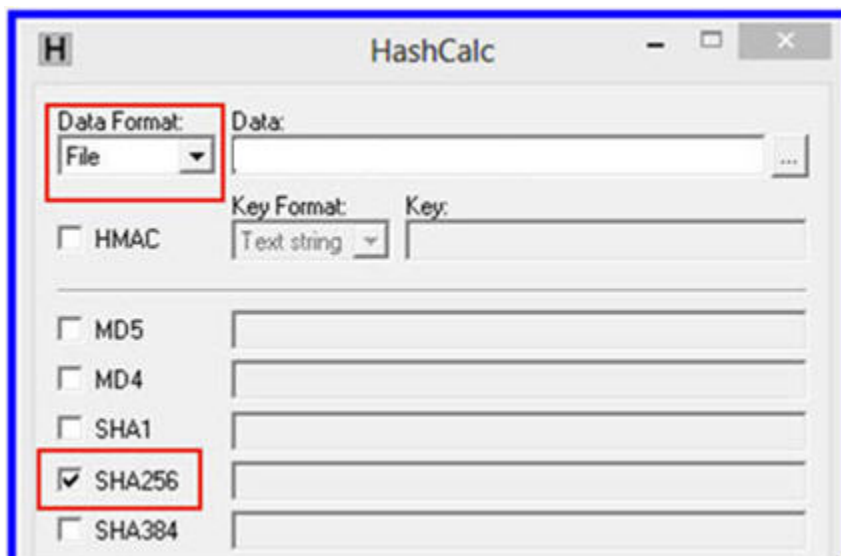


7. File is selected.

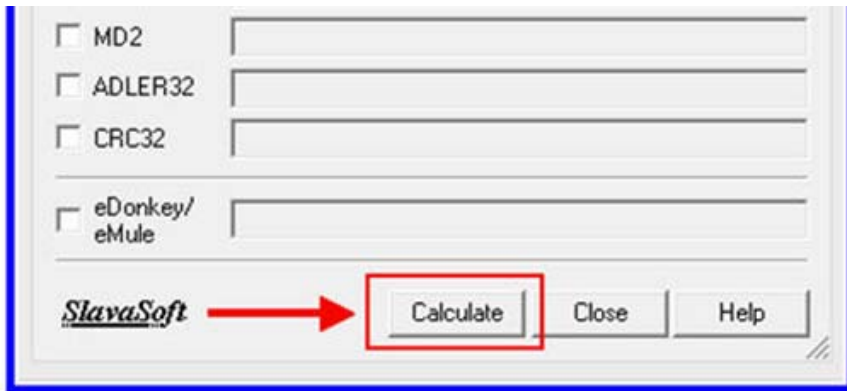


8. To generate the hash value make sure ONLY the following items are selected:

- Data Format = File
- SHA256 is checked

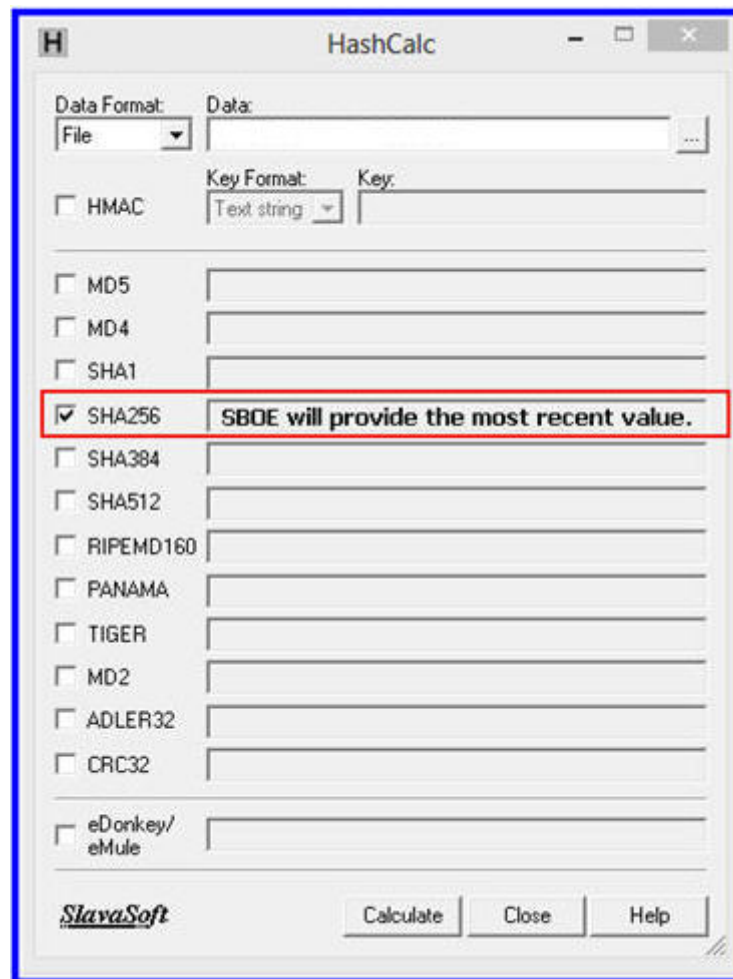


9. Click  to generate hash value.



10. Hash value is generated by HashCalc.

11. Compare hash calc SHA256 value to the certified value provided.



12. If values are the **SAME** then the authorized software/firmware image file that was downloaded from the NYSBOE FTP site **PASSES**.

13. If values are NOT THE SAME, contact NYSBOE.

14. If the values are the **SAME**, the CBOE will remove the security seal and will remove the CF Card.
15. The CBOE will reimage the CF card using the authorized software/firmware image file that was:
 - a. downloaded from the NYSBOE FTP site
 - b. passed the hash check

Note: If you have any questions on how to reimage the CF Card please contact NYSBOE.

16. The CBOE will insert the reimaged CF card into DS850.
17. The CBOE will place a new security seal and will record the new seal serial number.
18. The CBOE will perform test to ensure that reimaging was successful.
 - a. Turn on DS850
 - b. Verify all software/firmware loads