HASH VERIFICATION

What is it?

Hash verification is a process that ensures the integrity and authenticity of digital data. A "hash" is like a digital fingerprint—a unique string of characters generated from data. Even a small change in the data will result in a completely different hash, making it an effective tool for verifying that no alterations have occurred.

What is its role in elections?

Hash verification plays a pivotal role in safeguarding the integrity of voting systems. It serves as a crucial security measure by providing a way to confirm that the certified voting system, which has undergone rigorous testing, remains unaltered as it's deployed in the field for actual elections. This process is essential to prevent any unauthorized modifications to the system, malicious or unintentional, that may compromise the system's accuracy. Verifying that the fielded system's hash values match that of a certified system provides confidence that the system's integrity is preserved. This is a fundamental step in building and maintaining trust in our elections, assuring the public that their votes are accurately recorded and counted.

How is it performed?

Hash verification is performed by comparing the hash values, the unique string of letters and numbers representing each system file. Contact the EAC to obtain the EAC trusted-build hash files of the certified system and then follow the voting system vendor's procedures to extract the hash values from each individual piece of equipment. Use an open-source tool to compare the files. If the values match, the system is using the certified version.

Verification of Authenticity
Confirms the fielded system matches the certified version.

Security
Identifies alterations by comparing certified and fielded system hashes.

Transparency
Verifiable method to demonstrate election equipment is secure.

Accountability
Facilitates audits to ensure equipment operates as certified.

Chain of Custody
Demonstrates integrity of the voting system from deployment to return.

Trustworthy
Assures voters and stakeholders of the system's security and reliability.

Need assistance?

The EAC's Field Services Program (FSP) is here to help. The FSP can provide assistance with hash verification and other best practices to promote the integrity and security of your elections.