Risk Limiting Audits in North Carolina

Efficiently enhancing election security through mandated auditing

EXECUTIVE SUMMARY

The North Carolina Board of Elections finds itself at a juncture as it seeks to implement new voting systems. Many current systems are out of date and due to be decertified at the end of the year. Unfortunately, existing digital-only voting systems, the trend after the infamous hanging chads of the 2000 election, have been found to be irreparably insecure as malicious actors can influence results at all stages of the voting cycle. To counter election interference, this project recommends the Board implement risk limiting audits to supplement a paper ballot system: a cost effective way to increase the efficiency of the state mandated auditing process and significantly reduce the probability that malicious interference with the voting process can materially change the results of an election.
THE PROBLEM

Problems can arise anytime a computer is used during an election. Whether it is something benign or more nefarious like a hacker subtly changing tallies, audits give election administrators and the public alike confidence in the preliminary tallies. Today, North Carolina aims to ensure election integrity through a mandated post-election audit. While producing a high confidence in the results, the currently prescribed audit is more costly than alternatives and only audits one race in each election. It also is a significantly costly endeavor.

“Risk Limiting Audits fill a key gap in the election security landscape by addressing potential issues at every step of the voting process.”

THE SOLUTION

In order to significantly reduce inefficiency in the post-election auditing process, this project recommends that the State of North Carolina adopt risk-limiting audits (RLAs), which according to cybersecurity professionals are a best practice for election security when coupled with paper ballots. By reducing inefficiencies, RLAs also allow the state to conduct audits of more races, especially down-ballot races that could be more susceptible to interference. While RLAs alone do not address or fix all issues related to election security, when paired with paper-ballots, they demonstrate a bold, significant, and cost-effective next step towards securing our elections.