

## Alameda County Overhauls Manual Election Process with ABBYY® FormReader™ Enterprise Edition



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*- Matt Paul, Alameda County Infrastructure Services Manager.*

Alameda County occupies most of the East Bay region of the San Francisco Bay Area in California and is the seventh largest county in the country’s most populous state. It has 803,000 registered voters and, during the historic 2008 presidential election in which Barack Obama beat John McCain, total turnout swelled to a record 78.27 percent.

### Preparing for Historic Voter Turnout

In preparation for this record turnout, Alameda County Registrar, Dave McDonald added 30 additional polling stations, increased the number of poll workers at each location from four to five, provided them additional training, and provided twice as many ballots as usual. On top of that, he ordered the overhaul of the Registrar of Voters (ROV) roster book verification system.

Darwin Chavez, Technical Support Analyst for Alameda County’s Information Technology department, and the technician primarily in charge of the ROV Roster book Project, explained that a roster book is the book that is signed by voters to indicate they voted at a certain precinct during election time. There are 12 names on each page of the typically 150-page, spiral-bound roster book, each name corresponding to an identification number in a barcode. An ROV worker previously scanned each ID number with a handheld Wanda barcode reader, then downloaded the information into a set of .TXT lists, which were then imported to DIMS, the state voter database—a process that previously (and during a non-presidential election) took two weeks and 12 to 15 employees.

According to Matt Paul, Alameda County Infrastructure Services Manager, and supervisor to Mr. Chavez, the impending historic election and anticipated large turnout numbers prompted the county IT department to find a better solution. “There was no way we could get the roster component done in time with the current system,” he said.

**Company:** Alameda County Registrar of Voters

**Industry:** Government

**Location:** Oakland, CA.

**Products:** ABBYY® FormReader™ Enterprise Edition, Fujitsu FI-5900C scanners, WiseTrend CSV-to-Wanda converter

**Result:** Revamped two-week-long voter roster book processing project to 16.5 hours

## Finding An Automated Solution

So six months prior to the November 2008 election, the Alameda County IT team began its search for an automated solution and found it in ABBYY's FormReader Enterprise Edition, with the help of value-added reseller, Ilya Evdokimov of WiseTrend. "They showed me the original roster book page, reviewed the original process, and explained what they wanted in the new process," said Mr. Evdokimov. "During the investigation phase, I always gave them two options: this is what the software can do out of the box, and this is what we can do for custom development." Mr. Evdokimov said the Alameda County team was pleased with what the software could do, but did want a little customization, such as changing the way it named saved images. Mr. Evdokimov also wrote a .CSV to Wanda converter, so that the data from the roster books could be easily imported into the state voter database.

"This team is very knowledgeable," he said. "They knew what they wanted; they questioned the results and were always pushing the process forward. If they saw a possibility to shave some time from the process, they would ask the right questions of the software, and all possible solutions were examined."

## Using FormReader As An Overall Workflow

Mr. Evdokimov explained that the county's use of FormReader Enterprise Edition was unique. "In this case, FormReader was not being used in the classic forms processing and data capture way; instead it was used as an overall workflow for automation and rule-checking against the overall structure of the form."

Mr. Chavez explained the entire anticipated process on election night: For each of the total 831 spiral bound roster books, the poll workers would insert tabs to separate them alphabetically. They would then remove the coils, cut off the tabs, remove two colored sheets, clamp the remainder of the book with a binder clip and bring it to a scanning station. Each book would then be scanned with one of two Fujitsu FI-5900C scanners.

After scanning, the information would go to FormReader's recognition station, where the system would look at three distinct areas for each voter: a bubble on the left side of the voter's name, the signature of that voter, and a barcode, all on the same line. FormReader would then flag questionable items, such as a dot in the bubble (rather than a completely filled-in bubble), and would also conduct logic checks. For instance, if there was a signature, a corresponding bubble to be filled in had to be on the same line, and the opposite was true. In the event that one was true without the other, FormReader would flag that occurrence, eliminating the possibility for human error.

Each book was considered a batch, said Mr. Evdokimov, so an operator could look at all the flagged items for one book at once, rather than page by page, thereby reducing the verification process by seconds.

## 41 Seconds to Process a 150-Page Through Recognition

With the new scanners, servers, and ABBYY's FormReader in place, it took Alameda County personnel 41 seconds to process a 150-page roster book through the recognition phase (the secondary stage between scanning and verification). While the overall process, from book prep, scanning, recognition and verification, took a mere 16.5 hours compared to the previous, manual method, which was a two-week-long process.

"We found that the software was very accurate," said Mr. Chavez. "It did what it was supposed to do, and we noticed it was human error, not the software, that caused most of the false positives."

The county IT department took four days to train election officials on the new system in terms of how to prepare, scan and verify the roster books. By the time election night came around, the group was ready. "You have to anticipate problems in my position," said Mr. Chavez. "We had two servers with one as a backup. We were ready to flip the switch in case anything went down and we were backing up every five minutes. There was a lot of new stuff being implemented that night and we didn't know what was going to happen. We didn't have any real experience with ABBYY and we didn't know exactly how robust the software was. But everything went smoothly and it was a big relief off my shoulders. ABBYY's part went smooth; we couldn't have asked for anything more," he said about election night.

His supervisor agreed. "Being that it was an overhaul of an entirely manual process, it's hard to take any other baseline other than to compare it to the time and man hours to process the roster books manually. It was a drastic improvement in both man hours and overall time to do it the automated way," said Mr. Paul.

With the success of the 2008 election behind it, Mr. Chavez is now working on a different project for an upcoming, but smaller election for Alameda County. "I expect the process to be just as smooth," he said.

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