



North Carolina State Board of Elections Ensures Accuracy at the Polls



“Not only is the Motorola P460 bar code scanning solution extremely easy to use, it also saves the State the millions of dollars it would cost to rerun an election due to ballot distribution errors.”

- Marc Burris, IT Director, North Carolina State Board of Elections

Situation: Reduce human error in ballot distribution process

With up to 100 different types of ballots and the chaos of Election Day, volunteer poll workers would periodically give the wrong ballot to the voter. Errors of this type could potentially result in a call for a re-election, incurring significant expense for the State. The North Carolina State Board of Elections assessed the issue and decided to investigate a solution, based on technology, easy to use and simple enough for its volunteers to learn quickly.

Solution: Motorola handheld P460 wireless bar code scanner

The North Carolina State Board of Elections worked with Motorola and partner CDW-G to leverage proven, existing technology that would provide an easy-to-use solution to alert poll workers when an incorrect ballot was handed out. After testing several alternatives, the Board of Elections chose the flexible, customizable and rugged Motorola P460 cordless bar code scanner with programmable architecture and forward scanning pistol grip for precincts using optical scan voting machines. The scanner reads the bar code on the ballot and provides an audible tone and visual error message if there is a mismatch.

Results: Easy to use, customizable, and reliable

The successful pilot program was launched during the May 2008 presidential primary election. Volunteer poll workers used the Motorola P460 bar code scanner to verify that each voter received the appropriate ballot, preventing potential errors. The units were easy for volunteers to learn, the ergonomic design reduced user fatigue, and the process not only prevented mistakes, it streamlined the voting process. In addition, NC State Board of Elections plans to use the P460 to improve accountability and efficiency in the voting equipment distribution process after the elections.

Benefits

- Efficient process
- Easy to learn and use
- Reduces errors
- Multiple applications on one device



“Based on the projected cost avoidance and the overwhelming success of the pilot program, we made the decision to expand the program statewide this fall.”

- Marc Burris, IT Director,
North Carolina State Board of
Elections

Challenge

Volunteers are the backbone of the election process in the United States. According to research published by electionline.org, a project of the Pew Center, there are an estimated two million poll workers, representing the largest one-day work force in the nation. Volunteer poll workers ensure the conduct of fair and accurate elections, prepare the precinct by setting up voting equipment, greet voters, verify registrations and provide voters with appropriate ballots. At the end of the day, poll workers close the precinct and prepare election materials for delivery or deliver the materials personally to the Elections office.

Nearly six million registered voters reside in North Carolina's 2,751 precincts and Election Day can be chaotic and stressful for volunteers. Depending on the precinct, party affiliation, and type of election, up to 100 different types of ballots can be used during a single election. Due to the multiple ballot styles, the process of ensuring that voters are matched up properly with the appropriate ballot can be challenging for volunteers, increasing the possibility of human error.

Technology streamlines the ballot distribution process

Human error can potentially create the need to redo an entire election, costing a single county up to \$700,000. To make the process as easy and foolproof as possible for all volunteers, North Carolina election officials wanted to leverage technology to prevent human error in ballot distribution at polling sites and to streamline the ballot distribution process. The solution had to be simple to use, usable for additional post-election tasks, and provide a substantial return on investment to the state.

Solution

In January 2008, Marc Burris, IT director, NC State Board of Elections, began working with Motorola partner CDW-G, a leading provider of technology products and services for business, government and education.

“With tens and even hundreds of different ballot styles needed in every election, human error in ballot distribution is possible, but it is not inevitable,” says Jim Grass, senior director of state and local government sales, CDW-G. “The right technology, coupled with the state’s methodical process at the precincts, can make ballot distribution as simple and accurate as point and click. Most importantly, it can strengthen citizens’ confidence in the voting process.”

Ergonomic design reduces worker fatigue

Burris and CDW-G tested several solutions, including handheld scanners and personal digital assistants (PDAs), but found the PDAs were not only cost prohibitive, but also too difficult for the volunteers to use, both operationally and ergonomically. After several product trials, they chose the Motorola P460 wireless bar code scanner with keyboard and display in a forward-scanning pistol grip handheld form factor. Commonly used for inventory management, CDW-G and Motorola saw beyond the traditional usage model and determined that the proven technology could be easily adapted to meet the state’s balloting-scanning needs. The P460 is user-friendly and has a programmable architecture, allowing the state to develop custom applications. In addition, the ergonomic design and comfortable grip would substantially reduce worker fatigue.

“With CDW-G’s advice and Motorola’s leading technology, North Carolina can ensure that each voter receives the right ballot.”

– Marc Burris, IT Director, NC State Board of Elections

Burris and his IT team worked with Motorola to develop the application that would help volunteers ensure that the right ballot goes to the specific voter. With numerous types of elections and ballots, volunteers can use the P460 scanner and customized application to scan the name in the book and—based on the district, whether it’s a city, county, school board, or other type of election—ensure that the voter receives the correct ballot.

With a goal of holding a pilot program during the May presidential primaries, Burris, CWD-G, and Motorola had to act fast to develop and test the application, place it in production, and deliver 500 units by early April. The units would be distributed to volunteers throughout 200 precincts and 3,200 voting sites.



Motorola P460 Scanner

Pilot program catches and prevents many potential errors

The state rolled out its successful pilot program in nine counties where optical scan voting machines enabled voters to record their choices by directly marking the ballot. Poll volunteers used the Motorola cordless scanners to verify that each voter received the appropriate ballot. If the ballot was an incorrect match, a large “X” appeared on the display and audible tones alerted the user. During the pilot program, the process caught and prevented many potential errors.

Easy to use and easy to customize for other uses

“Improving the accuracy of the election process significantly helps to reduce human error and avoid the potential for recounts,” says Kevin DeSpain, Motorola Director of Sales, Mobile Computing and Applications. “The P460 is proven technology and can be customized to meet the specific need. It is ergonomically suited to reduce worker fatigue and easy to use – all critical attributes that met the Board of Elections needs for its poll workers.”

Users were nearly unanimous in their approval of the P460, finding the handheld scanner easy to use without a lot of training. “Our precinct officials loved the scanners because it reassured them that the appropriate ballot was handed out,” said a volunteer from Johnston County. “The error audio tone was easily recognizable from the standard tone, reassuring our volunteers that they could readily identify if a ballot was wrong,” said a precinct official from Buncombe County.





About CDW-G

CDW Government, Inc. (CDW-G) is a leading provider of technology solutions for federal, state and local government agencies, as well as educational institutions at all levels. CDW-G focuses on building strong customer relationships with its knowledgeable account managers and technical specialists who provide extensive pre- and post-sales support. Areas of focus include notebooks, desktops, printers, servers and storage, unified communications, security, wireless, power and cooling, networking, software licensing and mobility solutions.

For more information about CDW-G, call 1.800.808.4239 or visit CDWG.com

Other advantages of the cordless P460 bar code scanner include:

- **Flexible** Scanner supports utility software and advanced data formatting to deliver seamless integration of data into the existing host application.
- **Easy to see** Large display is easy to see, even for those with some visual impairment
- **Easy to hold** Forward-scanning, comfortable pistol grip reduces user fatigue
- **Easy to hear** Specific audio tone alerts worker when there is a ballot mismatch
- **Reduced risk** Non-volatile memory saves data if unit loses power
- **Large memory** Up to 8 MB of memory provides ample capacity for data
- **Customizable** Optional design tool enables custom data management applications

The Elections Board plans to roll out the solution to all 2,751 NC precincts that use optical scan voting machines, and hope to do this prior to the November 2008 national election.

"With CDW-G's advice and Motorola's leading technology, North Carolina can ensure that each voter receives the right ballot," Burris says.

Next Steps

One of the goals visualized by the NC State Board of Elections was the ability to use the bar code scanner for other uses during non-election times. The Motorola P460 scanner is capable of handling up to nine different software programs, each customized for a different application. Burris already hopes to use these handheld scanners to more easily track the state's millions of dollars worth of voting equipment both before and after elections, which will increase efficiency, improve security, and potentially reduce the cost of the equipment distribution process.



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