

Streamlining the Voting Process

Mobile Computing
Government/Public Sector



Election Systems & Software accelerates time to market, reduces costs, and improves the voting experience

Election Systems & Software (ES&S) offers technology solutions that transform the voting experience, making it easier for individuals to cast their ballots while improving efficiency for the government agencies and other organizations holding elections. The company's portable ExpressPoll* solution enables poll workers to speed the voter check-in process and streamline post-election tasks. ES&S adopted Intel® Atom™ processor-based tablets running Microsoft Windows 8.1 Pro* for the company's next-generation ExpressPoll Tablet* solution. The new platform provides poll workers with the performance they need while helping ES&S accelerate time to market and reduce the costs of product development.

Challenges

- **Speed time to market, reduce costs.** Produce a next-generation tablet model of the ExpressPoll pollbook solution that can attract new customers and offer new capabilities while reducing the time and costs for new product development.
- **Deliver a responsive experience.** Help ensure the ES&S EZRoster* software runs smoothly and provides a responsive experience for users.
- **Prepare for the future.** Modernize the ExpressPoll solution with a platform that can serve as a foundation for future product innovations.

Solution

- **Toshiba Encore 2* tablet with the Intel Atom processor.** ES&S built the ExpressPoll Tablet solution with a customized Toshiba Encore 2 tablet equipped with the Intel Atom processor Z3700 series. The tablet runs ES&S EZRoster software on the Windows 8.1 Pro operating system.

Technology Results

- **Strong performance.** The Intel Atom processors provide the robust application performance required to deliver a responsive user experience.
- **Swift transition.** Adopting a tablet with Windows 8.1 Pro and the Intel Atom processor eliminated the need for extensive software development rework.

Business Value

- **Faster time to market.** Using an industry-standard platform accelerated the time to market.
- **Reduced costs.** Speeding software development work and minimizing in-house hardware development can help the company keep pricing competitive.

“We significantly accelerated our time to market by using a Windows*-based Toshiba tablet with the Intel® Atom™ processor.”

– Jessie Blackman,
Director of Pollbook Products and Services,
Election Systems & Software

“With an Intel® Atom™ processor–based tablet running Windows 8.1 Pro*, we have a robust foundation for expanding our solution’s capabilities.”

– Jessie Blackman, Director of Pollbook Products and Services, Election Systems & Software

- **Improved voter experience.** Running EZRoster software on a compact, lightweight tablet that offers touch-based capabilities enables poll workers to provide a fast, efficient experience for voters.
- **Platform for the future.** Using a Windows environment with Intel Atom processors gives ES&S a platform for introducing new capabilities and enabling multitasking on a single device.

Facing Time-Consuming Paper Processes

“In the past, checking in voters at polling sites has been a slow, labor-intensive, and risk-prone process,” says Jessie Blackman, director of pollbook products and services at ES&S. “Poll workers need to manually search a large paper roster to find each voter’s name and verify his or her identity. The poll worker then has to provide the right style of ballot—in jurisdictions where there are options—and record voter information changes manually. In the hectic election environment, there are multiple opportunities for human error.”

Manual processes also slow the lines at polling places, creating an unpleasant experience for voters and discouraging some individuals from voting at all. “We want to make it easier and more convenient to vote while enhancing operational efficiency for jurisdictions,” says Blackman.

The need for efficiency extends beyond Election Day. “After the election, officials oversee the process of updating voter history back into other systems,” says Blackman. “They need to make sure the history is properly reflected in their systems and ensure registration lists stay current. When jurisdictions process these updates manually, this process is extremely time-consuming and can be error-prone.”

Streamlining the Voting Experience with ExpressPoll

ES&S poll place management solutions, including the ES&S ExpressPoll solutions, were created to offer efficient alternatives to manual paper-based processes. ExpressPoll solutions help accelerate and automate many time-consuming process. Running ES&S EZRoster software, ExpressPoll solutions enable poll workers to quickly find voter names in electronic databases without requiring those workers to thumb through large paper ledgers or stacks of printouts. Designed for mobility, ExpressPoll solutions also allow poll workers to walk down the line of voters with the device to make sure everyone is in the right place.

“With ExpressPoll, jurisdictions can serve more voters in less time,” says Blackman. “For voters, that means shorter lines and a faster overall experience at the polls.”

ExpressPoll integration with additional systems helps speeds the post-election input of voter history changes. “Some jurisdictions hire extra workers and still might take weeks to complete the process,” says Blackman. “With





ExpressPoll, one county was able to reduce the time to record voter history changes from three weeks to 22 minutes. The county saved time, avoided labor costs, and eliminated human errors.”

Planning the Next-Generation Model

For several years, ES&S used purpose-built tablets for ExpressPoll solutions. These purpose-built models run the EZRoster software application on the Windows CE* operating system.

When it was time to develop the next-generation ExpressPoll model, the ES&S team reconsidered building the product in-house. “We saw an opportunity to reduce development costs and accelerate time to market by moving to a commercial, off-the-shelf platform,” says Blackman.

The ES&S team considered Google Android* and Apple iOS* devices for the new model, but those devices could not meet the technical requirements of all ES&S customers. “We need a platform that supports a range of peripherals, including printers, signature capture devices, bar code scanners, and magnetic strip readers,” says Blackman. “Unfortunately, the Android and iOS devices did not readily provide the driver support our customers required.”

Adopting a New Hardware Platform Based on Intel Atom Processors

After evaluating a full range of options, the ES&S team selected 10-inch Toshiba Encore 2 tablets with Intel Atom processors. ES&S uses a slightly customized version of the Encore 2 tablet, with more memory and a higher processor speed than what is typically available to consumers. The company runs the Windows 8.1 Pro operating system on the tablets.

“The Toshiba Encore 2 offers the right combination of a compact, lightweight form factor and support for USB peripherals,” says Blackman. “At the same time, the built-in camera, touch screen, and wireless connectivity help reduce the number of peripherals and cables that poll workers need.”

Delivering a Responsive User Experience with Intel Atom Processors

The Intel Atom processors provide the strong performance needed to run the EZRoster application. “Our application requires data processing behind the scenes,” says Blackman. “With the Intel Atom processor, the application can conduct all of the synchronization and database lookups, and display information in the custom user interface, smoothly and reliably. As a

Lessons Learned

“In producing a tablet-based solution, you don’t have to reinvent the wheel,” says Jessie Blackman, director of pollbook products and services for ES&S. “Capitalizing on hardware platforms that have already been developed and refined can help you save time while letting you stay focused on your unique software and your customer needs.”

result, we can deliver a very responsive experience for the poll workers and the voters.”

Enhancing Usability and Simplifying Development with Windows

The Windows 8.1 Pro operating system helps improve the experience of poll workers and voters. “With Windows 8.1 Pro touch capabilities, we can give poll workers the option of using their fingers or a stylus to navigate the application,” says Blackman. “Similarly, voters can sign their names on the screen with their finger or use a stylus. The touch capabilities allow us to accommodate a range of preferences, requirements, and work styles.”

By adopting a Windows-based tablet, ES&S was also able to reduce the time and cost of software development. “We recognized that it would require a substantial effort to port EZRoster to a completely new operating environment,” says Blackman. “Instead, we chose to stay with Windows. Migrating EZRoster from Windows CE to Windows 8.1 was incredibly fast and virtually seamless.”

Accelerating Time to Market, Reducing Costs

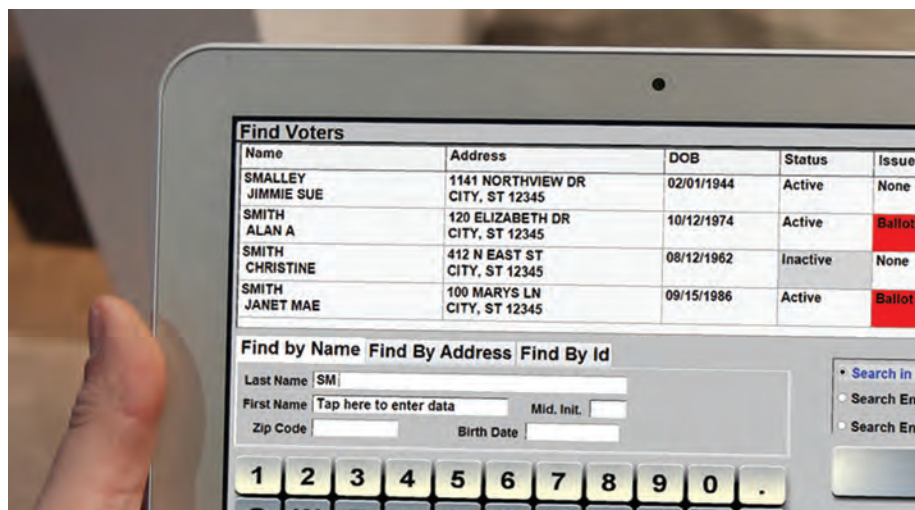
For ES&S, the move to a new hardware platform is delivering important

business benefits. “Developing a new product can take anywhere from a few months to a few years,” says Blackman. “Using a commercial, off-the-shelf platform instead of a purpose-built system enabled us to spend much less time selecting, integrating, and testing components. We significantly accelerated our time to market by using a Windows-based Toshiba tablet equipped with the Intel Atom processor.”

The company expects to reduce solution development costs as well. “In the short term, staying with a Windows environment has enabled us to avoid the potentially high costs of porting our software to a new operating system,” says Blackman.

Gaining a Foundation for the Future

With less need for hardware development, the company can devote more of its engineering resources to creating new capabilities for ExpressPoll and other ES&S solutions. At the same time, the move to Intel Atom processors opens new possibilities for future



functionality that can address evolving customer demands and provide competitive differentiation.

“Running Windows on Intel Atom processors allows us to enable more multitasking workflows in the future,” says Blackman. “This industry-standard platform also makes it easy to incorporate additional software, including applications that could help poll workers streamline other

processes at the polls. With an Intel Atom processor-based tablet running Windows 8.1 Pro, we have a robust foundation for expanding our solution's capabilities.”

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