



21st-century voting leaps forward using VR Election Services, the iSeries, and WebSmart.

Web based applications; PCs, interactive voice response equipment, PDAs, Kiosks and various wireless devices bring the voting booth to the voter.

by Robert Gast

When members of associations, labor unions, and pension organizations are given an opportunity to exercise their legal right to elect new leadership or express a preference on policy, focus on precision and detail must pervade the voting process to yield valid and indisputable tallies. The VR Election Services division of Voice Retrieval and Information Systems in Dallas, Texas, is firmly committed to conducting objective elections for hundreds of thousands of voting members of credit and labor unions, pension and retirement systems, and university alumni associations.



Solid and secure technology removes human error from the voting booth. To automate the election process, the VR Election Services business unit conducts elections using Web-based systems that are back-ended with RPG applications running on redundant IBM eServer iSeries Model 720s. These systems, developed with WebSmart from **Business Computer Design**, while

conveniently accessible from the Web, are steadfastly secure.

VRI was founded in 1984. The company's top man in IT, John Meleky, wrote all of its production RPG applications. When VR Election Services decided to add online election services to its range of offerings, Meleky started looking for a Web application development tool that would allow him to build a Web application to run alongside VRI's legacy RPG apps on an AS/400 Model 400. He first looked at WebSphere, which, says Meleky, "...was very complex. With all the training involved and long development cycles, it didn't fit into my timeframe. We found WebSmart was a better fit to help technicians with RPG skills. It was easy to set up, and BCD provided quick-start documentation that allowed us to be productive right away. It's the easiest product to use, bar none." Unlike WebSphere, WebSmart ran well on VRI's Model 400. "WebSphere would have required a brand new machine. The upgrade alone would have cost over \$60,000." Since then, VRI has upgraded to redundant iSeries Model 720s. "This was a result of support issues and had nothing to do with WebSmart," says Meleky.

A large turnout is key for each election that VR Election Services conducts, so flexibility has been designed into its

voting systems. Unlike the days of paper ballots and voting boxes, VRI's technology allows members of client organizations to participate in a variety of ways. VR Election Services uses WebSmart-developed applications to handle secure login and voting, while back-end RPG applications plot the numbers. Members of organizations that subscribe to VR Election Services access these applications from paper ballots, PCs, Interactive Voice Response (IVR) units, PDAs, and other wireless devices. "All of the collected data is kept in a single and secure central data repository on the iSeries system, making it much easier to work with." Meleky, an ardent supporter of iSeries technology says, "We are doing lots of different open systems work with the iSeries, and it's all based on WebSmart. We can attain all the functionality we need to lay the groundwork for everything else."

"By keeping everything on the iSeries and by using RPG and WebSmart, it's easy for us to maintain our systems."

John Meleky, VRI

Rapid Development

Since each VR Election Services client has different requirements, new Web sites have to be developed for each one of them.

"We can now write these applications in just a couple of hours," says Meleky.

Once the functional ballot pages are developed, clients test them and make any needed changes. As a result, VRI developers are able to get back into a program and change it fast. According to Meleky, "These programs are very easy to modify. Every customer has preferences on how they want information presented, so naturally we make changes after the initial ballot is completed."

Since VR Election Services conducts elections that often have far-reaching outcomes, voters must be able to cast their votes without experiencing problems. Many of the company's clients have been on board for 20 years or more, largely because they can depend on VR Election Services to conduct elections efficiently, provide ample security, and deliver accurate election results. Says Meleky, "We run multiple elections at a time, so usually at the onset of an election, the traffic is very heavy." VR Election Services handles organizations that typically have between 6,000 and 600,000 members. Elections may last from one week to one month. "Our largest group of elections so far included over 800,000 members." Despite these heavy loads says Meleky, the applications developed with WebSmart have never failed.

Security

Before any election can be held, a valid list of current organization members must be sent to VR Election Services so access to ballots can be controlled. Federal and state regulations governing privacy are tight, and the penalties for failing to protect their information are severe. "Using the streaming file transfer functionality within WebSmart makes it very simple for clients to send this data to us. They go straight out past their firewall with a browser with a secure connection with SSL encrypting the data. We also have a secure socket coming back to WebSmart that uses 'Smurfs'

to identify the client. This makes it very secure, and I don't have to spend any time on it like I would with secure FTP server."

The VR Election Services Web site also complies with Secured Access Method (SAM) specifications and those put forth by the Payment Card Industry (PCI). "WebSmart facilitates all of this," Meleky says. To further ensure system integrity, he contracted with an independent company that scans his site on a daily basis at random times to ensure that his site is hacker-safe.



Other Projects

WebSmart is now one of VRI's strategic development tools. "By keeping everything on the iSeries and by using RPG and WebSmart, it's easy for us to maintain our systems." Meleky has devised his own kiosk system, which includes touch-screen PCs with browsers that talk to the Web over a WiFi link. Again, applications developed with WebSmart handle all of the transactions. "Users have an ID and password, and the traffic is encrypted via SSL 128 encryption.

Also on the workbench is a self-service site so VRI Election Services clients can handle the administration aspects of their own elections. "We are going to give customers the ability to maintain member information which, for voting purposes, will qualify or disqualify them."

By applying technology that is secure, easy to use, and easy to manage, VRI

Election Services has created 21st-century voting systems that represent a giant leap forward.

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