

Innovative Approaches to Military Voting: Okaloosa County, Florida Remote Voting Project Overview

**National Association of State Election Directors
2009 Winter Meeting**

February 7, 2009



www.OperationBRAVO.org

Okaloosa Distance Balloting Pilot (ODBP)

Objective: Evaluate the effectiveness of remote voting kiosks to improve overseas voting access

- Project conceived and conducted by the Supervisor of Elections, Okaloosa County, Florida
- Authorized by Florida Administrative Rule 1S–2.030 Electronic Transmission of Absentee Ballots
- Based on Scytl Pnyx secure voting system, tailored to meet Florida requirements
- System certified by Florida as adjunct to pollsite system
- Project managed by Operation BRAVO Foundation

Three Overseas “Early Voting Centers”

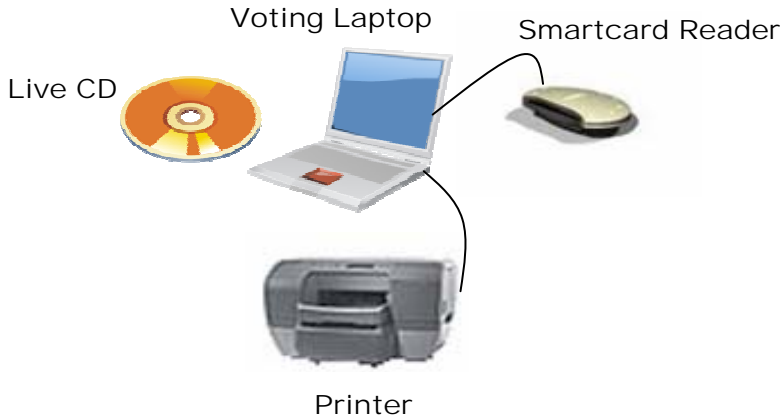
- Staffed voting kiosks in England, Germany, Japan
- Open for 10 days
- 94 voters participated, 93 ballots cast
- All 78 ballot styles available, 23 different styles voted
- Paper records produced for all electronic records cast
- Canvassing Board validated, decrypted, and tabulated electronic ballots
- Kiosk officials set up and operated kiosk systems
- Elections staff administered central office system

UK Kiosk : Mildenhall, England

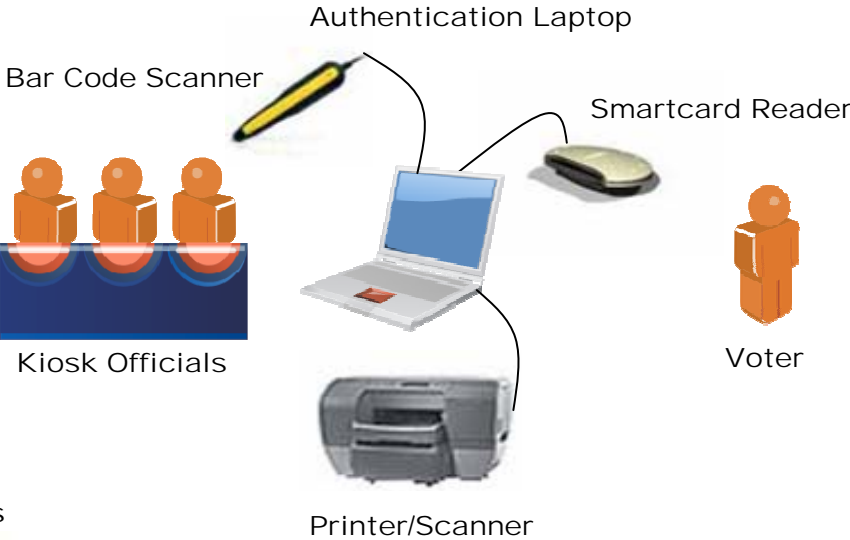


Absentee Voting Kiosk Systems

Voting Station



Voter Authentication System



Specialized Bags



Voting System Security Elements

- Voter identity and eligibility verified by kiosk officials
- Secure laptops used for voting
- Voting software verified by Florida Division of Elections
- Voted ballot signed by voter's digital signature, then encrypted with Canvassing Board key
- Encrypted ballot transmitted by secure communications to a BS7799 certified Tier 3 secure data center for storage
- All system transactions logged in patented immutable system logs
- System performance validated by manual count of all races on 100% of paper records

Walkthrough of Distance Balloting Process

- Daily setup of voting kiosk
- Positive identification of voter
- Correct ballot style matched to voter
- Ballot selection, confirmation, and casting
- Protecting integrity of voted ballot
- Only one ballot counted per voter
- Correct tabulation of votes

Daily Setup of Voting Kiosk

- Kiosk worker retrieves voting CD, smartcards, and other controlled items from secure storage
- Verifies authenticity of voting CD
- Connects to Okaloosa VRDB and remote voting server
- Verifies connections and correct operation of voting laptop
- Leaves voting laptop in ready state for voting

Positive Identification of Voter

- Voter presents identification credential
- Kiosk worker looks up voter using authentication laptop with on-line connection to Okaloosa VRDB
- Voter Certificate is printed from VRDB
- Voter signs Voter Certificate
- Kiosk worker compares signature and authenticates voter

Printing the Voter Certificate

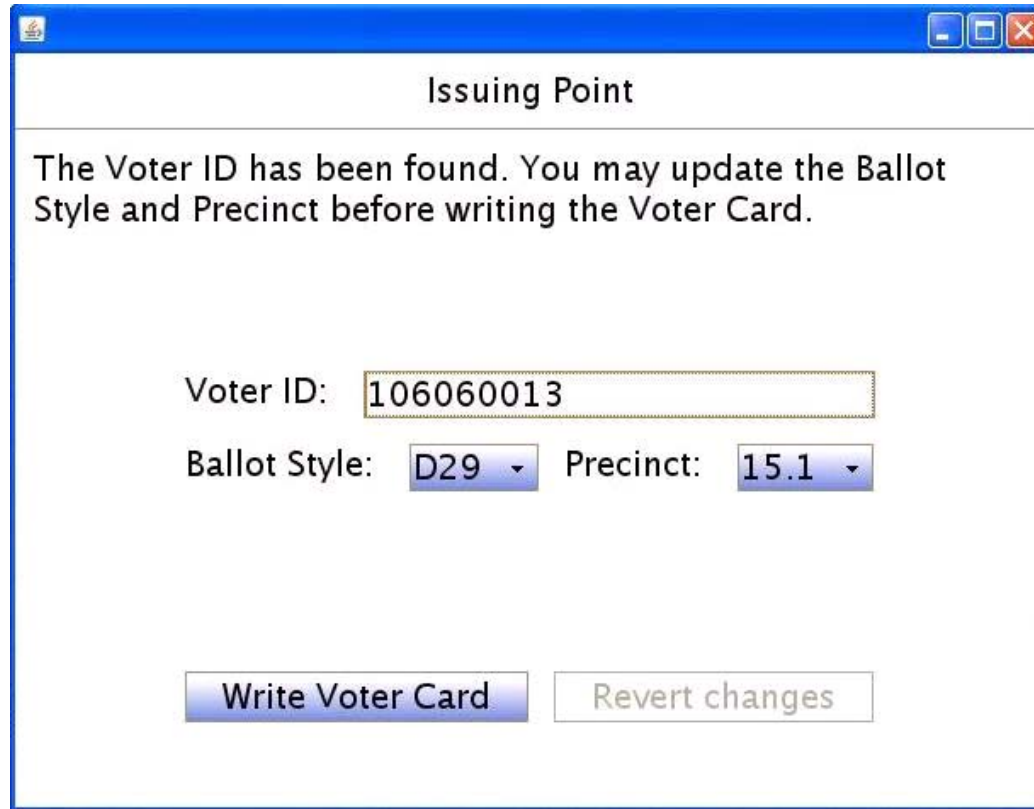
The screenshot shows a software window titled "Training Voting Election 131 2008 General Election (Working offline with FVRS unavailable)". The interface is divided into several sections:

- Header:** "131 2008 General Election" and "11/04/2008".
- Personal Information:** "106032459 Lux, Paul A", "196 Villacrest Dr , Crestview, 32536", "County OKA", "ID", "Party Rep,Republican Party Of", "Birth Date 11/02/1966".
- Transaction Details:** "Precinct 45.4", "Wrd 1", "Crestvie W", "Txn Date 09/29/2008", "Time 07:51 PM".
- Ballot Information:** "Issue Ballot" section with "Ballot G45.4".
- Voting Method:** Radio buttons for "Optical Scan", "Touch Screen" (selected), "Pickup", and "Office Absentee".
- Signature:** A digital signature box containing a handwritten signature.
- Buttons:** "View Image", "Address Change", "OK" (circled in red), "Issue Provisional", and "Cancel".

Correct Ballot Style Matched to Voter

- Kiosk worker scans bar code on Voter Certificate to record ballot style, voter ID, and PIN data on a smartcard
- Smartcard used to initiate voting process at voting station
- Smartcard data communicated to voting service on remote secure server
- Correct ballot style and voter digital signature delivered to voting laptop

Verification of Correct Ballot Style



The screenshot shows a software window titled "Issuing Point" with a blue title bar. The window contains the following text and controls:

The Voter ID has been found. You may update the Ballot Style and Precinct before writing the Voter Card.

Voter ID:

Ballot Style: Precinct:

Ballot Selection, Confirmation, and Casting

- Voter uses touchscreen to make ballot selections
- Confirmation screen activates printing of Voter's Choice Record
- Voter confirms ballot selections
- Voter casts ballot and deposits Voter's Choice Record in secure receptacle
- Voting station prints Counted as Cast receipt that voter retains

Voting Screen Sample

Voting: 1 of 26

Voting Instructions

Voting: 1 of 26

Review Instructions

Review

Print Record

Cast Ballot

PRESIDENT AND VICE PRESIDENT			
PRESIDENT AND VICE PRESIDENT (Vote for One)			
George W. Bush Dick Cheney	REP	SELECTED	Walter F. Brown Mary Alice Herbert
			SPF DISABLED
John F. Kerry John Edwards	DEM	DISABLED	Ralph Nader Peter Miguel Camejo
			REF DISABLED
Michael A. Peroutka Chuck Baldwin	CPF	DISABLED	ScytI Candidate 90 Vicepresident
			LIB DISABLED
Michael Badnarik Richard V. Campagna	LIB	DISABLED	ScytI Candidate 100 Vicepresident
			DEM DISABLED
David Cobb Patricia LaMarche	GRE	DISABLED	ScytI Candidate 110 Vicepresident
			REP DISABLED
James Harris Margaret Trowe	SWP	DISABLED	

Exit

◀ Voting Instructions

Instructions

NEXT ▶

Confirmation Screen

Review

Use buttons UP and DOWN to see all text.

Voting Instructions

UP

Vote

Review Instructions

Review

Print Record

Cast Ballot

Review Instructions

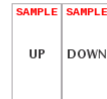
Races highlighted in **RED** have been undervoted or left blank.

Touch the race you wish to correct to return to that race.

You may need to press [UP] or [DOWN] to view all races.

If you are satisfied with your choices, press [Print Voter Choice Record]

<p style="text-align: center; font-size: small;">PRESIDENT AND VICE PRESIDENT</p> <p style="text-align: center;">PRESIDENT AND VICE PRESIDENT (Vote for One)</p> <p>George W. Bush Dick Cheney</p>	<p style="text-align: center; font-size: small;">DISTRICT COURT OF APPEAL</p> <p>Shall Judge Michael E. Allen of the 1st District Court of Appeal be retained in office? YES</p>	<p style="text-align: center; font-size: small;">COUNTY JUDGE GROUP 1</p> <p style="text-align: center;">GROUP 1 (Vote for One)</p> <p>David E. Fleet</p>	<p style="text-align: center; font-size: small;">NO. 5 CONSTITUTIONAL AMENDMENT ARTICLE X</p> <p>Florida Minimum Wage Amendment[...] YES</p>
<p style="text-align: center; font-size: small;">CONGRESSIONAL</p> <p style="text-align: center;">UNITED STATES SENATOR (Vote for One)</p> <p>A WRITE.]</p>	<p style="text-align: center; font-size: small;">DISTRICT COURT OF APPEAL</p> <p>Shall Judge Edward T. Barfield of the 1st District Court of Appeal be retained in office? YES</p>	<p style="text-align: center; font-size: small;">MEMBER, SCHOOL BOARD DISTRICT 2</p> <p style="text-align: center;">DISTRICT 2 (Vote for One)</p> <p>Chuck Kelley</p>	<p style="text-align: center; font-size: small;">NO. 6 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 19</p> <p>Repeal of High Speed Rail Amendment[...] YES</p>
<p style="text-align: center; font-size: small;">REPRESENTATIVE IN CONGRESS DISTRICT 1</p> <p style="text-align: center;">DISTRICT 1 (Vote for One)</p> <p>Jeff Miller</p>	<p style="text-align: center; font-size: small;">DISTRICT COURT OF APPEAL</p> <p>Shall Judge Paul Hawkes of the 1st District Court of Appeal be retained in office? YES</p>	<p style="text-align: center; font-size: small;">PROPOSED CONSTITUTIONAL AMENDMENTS</p> <p style="text-align: center;">NO. 1 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 22</p> <p>Parental Notification of a [...] YES</p>	<p style="text-align: center; font-size: small;">NO. 7 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 22</p> <p>Patients' Right to Know About Adverse Medical Incidents[...] YES</p>
<p style="text-align: center; font-size: small;">COUNTY</p> <p style="text-align: center;">SHERIFF (Vote for One)</p> <p>Charlie Morris</p>	<p style="text-align: center; font-size: small;">DISTRICT COURT OF APPEAL</p> <p>Shall Judge Charles J. Kahn, Jr. of the 1st District Court of Appeal be retained in office? YES</p>	<p style="text-align: center; font-size: small;">NO. 2 CONSTITUTIONAL AMENDMENT ARTICLE IV, SECTION 10 ARTICLE XI, SECTION 5</p> <p>Constitutional Amendments Proposed By Initiative[...] YES</p>	<p style="text-align: center; font-size: small;">NO. 8 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 20</p> <p>Public Protection from Repeated Medical Malpractice[...] YES</p>
<p style="text-align: center; font-size: small;">SUPERVISOR OF ELECTIONS</p> <p style="text-align: center;">(Vote for One)</p> <p>Pat Hollarn</p>	<p style="text-align: center; font-size: small;">DISTRICT COURT OF APPEAL</p> <p>Shall Judge Charles J. Kahn, Jr. of the 1st District Court of Appeal be retained in office? YES</p>	<p style="text-align: center; font-size: small;">NO. 3 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 22</p> <p>Parental Notification of a [...] YES</p>	<p style="text-align: center; font-size: small;">NO. 4 CONSTITUTIONAL AMENDMENT ARTICLE X, SECTION 22</p> <p>Parental Notification of a [...] YES</p>



SAMPLE IMAGE
Print Voter Choice Record ▶

Exit

Print Voter Choice Record ▶



Protecting Integrity of Voted Ballot

- Voter's digital signature applied when ballot cast
- Cast ballot and voter digital signature encrypted with Canvassing Board key
- Encrypted ballot transmitted via secure VPN to secure server
- Ballots stored with multiple layers of encryption

Only One Ballot Counted per Voter

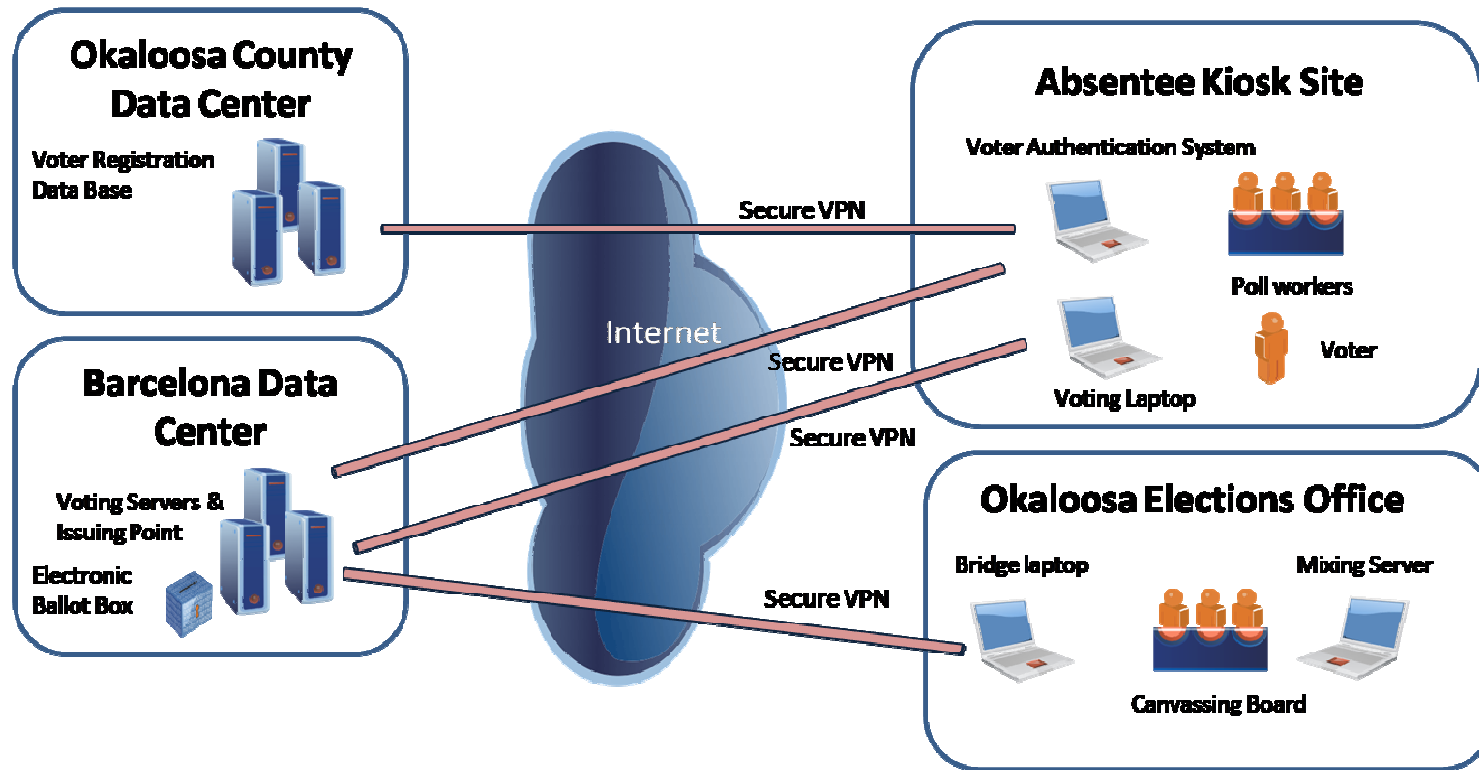
- Kiosk worker updates VRDB to indicate that voter cast a ballot
- Elections office staff hold aside unopened mail ballots returned by kiosk voters
- Canvassing Board reviews list of kiosk voters and reconciles with mail ballot information
- Canvassing Board selects electronic ballots to be counted

Correct Tabulation of Votes

- Election definition 'imported' from GEMS to ODBP tabulation server
- Canvassing Board authorizes download of encrypted ballots from server to bridge laptop
- Encrypted ballots transferred from bridge laptop to standalone mixing server for tabulation
- Canvassing Board enters key to initiate mixing and decryption of ballots
- Votes electronically tabulated
- Electronic tabulation verified against manual count of Voter's Choice Records

System Architecture

ODBP System Architecture



Results

- 94 voters participated, 93 ballots cast
 - England: 40
 - Germany: 33
 - Japan: 21
- 23 ballot styles
- System performance validated by comparing manual count of Voter's Choice Records with electronic tally
- Project evaluation report in progress

Some Lessons Learned

- Kiosk system easy for kiosk officials to set up and operate with minimal training (< 8 hours)
- Only technology issue was setting up network connection in hotels where kiosks were located
- System easy for voters to use; would like to continue voting this way; experienced greater sense of participation and confidence that ballot would be counted
- Researching question of lower than expected turnout—perhaps due to short voting period immediately before election day?
- But 8 voters traveled from 50 to 100 miles
- Some government coordination issues