2011 Initiatives

Technical Guidelines Development Committee
NIST-EAC
July 26th 2011
What is the Key Election System Issue

- Military Voter Registration Not the Problem
  - 71% = General Electorate
  - 77% = Military voters

- Voter Participation Rates not the problem
  - 64% = General Electorate
  - 53% = Military voters
  - 71% = Adjusted military voters

- Overwhelming voting failure is in ballot delivery and return times

- Absentee Ballot Return Rates:
  - 91% = General Population
  - 67% = UOCAVA voters
  - 62% = Military Voters

<table>
<thead>
<tr>
<th>Stage of voting process</th>
<th>Number of additional failures over general voting population</th>
<th>% of total failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Failure</td>
<td>4,057</td>
<td>1.5%</td>
</tr>
<tr>
<td>Ballot Delivery Failure</td>
<td>20,068</td>
<td>7.5%</td>
</tr>
<tr>
<td><strong>Ballot Return Failure</strong></td>
<td>206,771</td>
<td><strong>77.6%</strong></td>
</tr>
<tr>
<td>Ballot Casting Failure</td>
<td>35,645</td>
<td>13.4%</td>
</tr>
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<td><strong>Total</strong></td>
<td>266,540</td>
<td></td>
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Ballot Delivery Failure:
- 20,068 failures
- 7.5% of total

Ballot Return Failure:
- 206,771 failures
- 77.6% of total

Ballot Casting Failure:
- 35,645 failures
- 13.4% of total

Total:
- 266,540 failures
FVAP Key Initiatives

• **Direct to the Voter Assistance**
  - Eliminate much of the need for Voting Assistance Officers
  - Make the process easy, quick, intuitive and seamless
  - Communicate in effective terms and modes

• **Expanded Assistance for Election Officials:**
  - Provide voters tools that States will use
  - Assist in compliance

• **Transparency and Data-Driven Operations:**
  - Improve Post-Election Surveys to correct incorrect policies based on poor data
  - Post all data and methodology online
  - Combine data collection with EAC
Leverage Technology

• **Focus**
  • Improve ballot delivery and return times
    – 30 milliseconds to voter; not 30 days
    – 45 days prior (MOVE Act)
    – <7 days back from voter
  • Reduce voter error; easy voter use
  • Tailor to State requirements
  • All available through FVAP.gov

• **Tools**
  • Online FPCA
  • Online FWAB
  { All use hard-copy print-out
    wet signature, postal return
  • Online delivery and marking of full, precinct-level ballots
  • Electronic Absentee Voting Demonstration & Pilot Programs
## Online Tools

### Registration Wizard
- All States
- **92,565** Downloaded (2010)
- Online registration and absentee ballot request
- Only have to know addresses and personal information
- Automatically completes all forms
- Provides complete instructions, pre-addressed envelopes
- Print out, sign, send in by mail

### Full Ballot Wizard
- 17 States participated
- **3,097** ballots downloaded
- Online delivery of blank ballot
- ALL races and candidates
  - Federal, State and local elections
  - By precinct
- Online marking option
- Provides complete instructions, pre-addressed envelopes
- Print out, sign, send in by mail

### Back-Up Ballot Wizard
- All States
- **20,536** Downloaded (2010)
- Online marking for Federal races and candidates
  - By Congressional District
  - Allows for additional write-ins for State and local if allowed by State
- Provides complete instructions & pre-addressed envelopes
- Print out, sign & send in by mail
Demonstration and Pilot Projects

- DoD required by law to conduct electronic absentee voting demonstration project
  - 42 USC 1073ff note; 2002 and 2005 NDAAAs
  - Mandates
    - Cast Ballots through electronic voting system
    - Only Uniformed services voters specified
    - States must agree to participate
    - Report afterwards
    - Statistically significant number of participants

- DoD allowed to wait for EAC certified guidelines
  - EAC establishes guidelines
    - EAC also certifies it will assist in project
    - Different requirement than MOVE Act
  - DoD may further delay implementation
2011 Efforts

- Wounded Warrior Research
  - Disability Analysis
  - Voting Assistance Analysis
  - Operation Vote
- VSTL Testing
- Penetration Testing
- Grants
- Cyber Security Analysis Group
- UOCAVA Solutions Summit
Wounded Warrior Research Initiative

**Purpose:** To analyze voting assistance requirements for wounded and injured military voters

- **Individual Interviews**
  - Wounded Warrior
  - Voting Assistance Officers
  - Coordinated with EAC and Heroes Grant recipient

- **1st phase complete:**
  - Over 100 interviews
  - Assess current level of accessibility and engagement with Voting Assistance Program

- **2nd phase in-process:**
  - Execution of Operation VOTE
  - Validate research findings
  - observe usability challenges with existing fvap.gov tools and EVSW implementation
VSTL Testing

**Purpose**: Establish System Security Baseline
- Evaluate the quality of testing across VSTLs
- Evaluate the sufficiency of the EAC 2010UOCAVA Pilot Program Testing Requirements
- Identify common gaps across vendors
- Establish a baseline on how well vendors are complying

**Execution**:
- FVAP Funded Testing at Wyle Laboratories, Inc. and SLI Global Solutions

<table>
<thead>
<tr>
<th>EVSW Systems</th>
<th>Voting Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Credence</td>
<td>– Dominion Voting</td>
</tr>
<tr>
<td>– Democracy Live</td>
<td>– ES&amp;S</td>
</tr>
<tr>
<td>– Everyone Counts</td>
<td>– Scytl</td>
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<tr>
<td>– Konnech</td>
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- Results will not be vendor-specific
Establish System Security Baseline (cont’d)

- Active Penetration Testing
  - Conducted during “mock” election with votes being cast online
    - Dominion Voting
    - Everyone Counts
    - Scytl
  - Three Red Teams
    - Air Force Institute of Technology Center for Cyber Space Research
    - RedPhone, LLC
    - DoD
  - 72-hour testing period

- Evaluate the sufficiency of the UOCAVA Pilot Program Testing Requirements
- Identity common vulnerabilities across vendors
- Results will not be vendor specific
Grants Process

**General Info**

- **Multiple competitive awards** totaling $16,200,000

- State and local governments

  - Announcement Number BAA HQ0034-FVAP-11-BAA-0001
  - Or go to Grants.gov and search under “FVAP” keyword search

- Applications closed 13 July

**Technical Criteria**

- **Significance**: Addresses key problems

- **Sustainability**: Available beyond term of grant

- **Impact**: Number of UOCAVA voters served;

- **Strategic Approach**: Well-defined hypothesis and plan to test validity of hypothesis

- **Innovation**: Discovery or implementation of new technologies

- **Scalability**: Application across jurisdictions

- **Collaboration**: Involvement of other election jurisdictions/partners

- **Cost Benefit Analysis**: Anticipated Return on Investment
Government-only Review Group
- Provides independent review and advice on FVAP efforts
- Review cyber security efforts in support of the remote electronic voting demonstration project

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<tr>
<th>NIST</th>
<th>EAC</th>
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<tr>
<td>FVAP</td>
<td>FBI</td>
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<tr>
<td>Air Force Institute of Technology</td>
<td>Defense Information Systems Agency</td>
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<td>Defense Technical Information Center</td>
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<tr>
<td>National Security Agency</td>
<td>Naval Research Laboratory</td>
</tr>
<tr>
<td>DoD Chief Information Officer</td>
<td>Under Secretary of Defense (Personnel &amp; Readiness)</td>
</tr>
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Raised the idea of developing a Concept of Operations
UOCAVA Solutions Summit

**Purpose:** Provides for an open dialogue and exchange of ideas on electronic voting properties and build out of risk matrix for current UOCAVA Absentee voting environment.

**Invitees:**
- Public advocates and critics
- Advocacy groups
- Service providers
- Government agencies
  - EAC
  - NIST
  - Members of Cyber Security Review Group

**Next meeting:**
- San Francisco, 6-7 AUG 2011
- Prior to EVT/WOTE and USENIX
- Topic: Identify risk drivers to allow for comparative risk & policy analysis
How Electronics Standards Development Should Be Framed

**GAO Guidance**
- FVAP & EAC need detailed plans
  - Necessary plan elements:
    - results-oriented action plan
    - Goals, tasks, milestones, timeframes, and contingencies
- FVAP-EAC Memorandum of Understanding
- EAC-NIST Interagency Agreement
- MOVE Act also requires EAC to develop detailed timeline for development of electronic absentee ballot guidelines

**Risk = % x impact**
- Acceptable risk level policy decision already made
  - It IS the current voting system
  - Accepts 1/3 of absentee ballots never returned
- We should accept equivalent risk in new UOCAVA systems
  - May have different probability or impact
  - Can reduce probability and/or mitigate impact
  - Goal is to keep risk level at least the same, if not better
### Path Forward

<table>
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<tr>
<th>Define the Risk</th>
<th>Establish Properties</th>
<th>Establish Interim Pilots</th>
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<tbody>
<tr>
<td>Use the EAC Risk Assessment Tool &amp; NIST IT Risk Assessment Tools</td>
<td>What “properties” are unique to an electronic absentee voting system?</td>
<td>Integrate current work and align with timeline</td>
</tr>
<tr>
<td>Evaluate the current UOCAVA absentee ballot system as the baseline</td>
<td>To achieve the same level of risk as current system</td>
<td>Also examine national level threat risks</td>
</tr>
<tr>
<td>Develop comparable measures for future voting systems</td>
<td>Even if DON’T believe properties are technologically feasible</td>
<td>Develop decision points for iterative development</td>
</tr>
<tr>
<td></td>
<td>Not system specific</td>
<td>Attach dates for those decision points and milestones</td>
</tr>
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Comparative Risk Assessment

• FVAP conducting a Comparative Risk Analysis
  – EAC Risk Assessment Tool and NIST Risk Management Framework
  – Initial Risk Assessment by March 12
  – Comparative Risk Assessment by August 12

• Assess risks associated with the current UOCAVA Voting Environment

• Compare to risks associated with remote electronic voting

• TDGC Support Needed
  – Review methodologies
  – Comment on preliminary results
  – Incorporate results into High Level Guidelines
Timeline for discussion only – not approved by DoD, EAC, or NIST
Recommended Next Steps

1. Complete the comparative risk assessment

2. Develop High Level Guidelines to frame testable standards for demonstration project
   - Differentiate thresholds from aspirational goals
   - Refrain from “fixing” voting
   - Refrain from prescribing specific technologies
   - High Level Guidelines are not complete until linked back to acceptable risk levels in Step #1.
   - Trade-offs are needed between current level of military voter disenfranchisement vs. future benefits

3. Incorporate FVAP findings from FY 10 and FY 11 research

4. Revise Joint EAC-NIST-FVAP Roadmap
Federal Voting Assistance Program
Department of Defense

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