

# ***ELECTION MARKUP LANGUAGE (EML)***



DATE:  
DECEMBER '08

## **SECURING VOTING SYSTEMS**

- Democratic voting methods
- Open standard specifications
- Assurance for voters
- Solutions for election administrators
- Tools for providers

# Evaluating Your Electronic Voting Choices



Combining traditional voting with new technologies for better solutions for citizens



## As a Voter I Want To Know That

- *Everything is accurate and verifiable*
- *Everything is honest and auditable*
- *My vote got counted correctly*

## As an Election Administrator

- *I want to show my process to my constituency; increasing confidence in the election process and its results*
- *I want to be able to control, verify and audit each step of the process*
- *I want built-in security safeguards and access control*
- *I want to send my results information to interested 3<sup>rd</sup> parties (News Agencies, Election Control Board, Political Parties, Independent Analyst Groups, etc.) all using a single secure and standard way*

## As an Election Manager

- *I need to select cost effective and affordable solutions for my organisation*
- *I must be able to upgrade seamlessly without having to replace my entire investment*
- *All components need to be part of a thoroughly independently tested and assured solution*
- *My approach needs open, accountable methods that are publically verifiable*

## As an Election System Provider

- *I want to provide a method for independent 3<sup>rd</sup> party validation of the complete votes and results reported*
- *I want built-in safeguards for the integrity of the information*
- *I want publically available standards with testing systems so I can consistently and easily certify my solutions*
- *I want to include information from a range of external systems into the final results, in a way that shows they are the originals without alteration*
- *I want to be able to report results using open public standards that support today's media and web publishing needs*

# Using the OASIS EML Standard Provides



*Voters queuing with their registration cards*

## 1. Verifiable Elections and Referendums

- Uses open public specifications to promote voter rights and safeguard elections
- Provides a base on which to build open, trustworthy and credible systems
- Allows end-to-end implementation of audit and control mechanisms
- Targets public and private elections and referendums

## 2. Rigorous Protection for Voter Privacy and Verifiable Balloting

- Provides formal mechanisms and procedures to ensure voter privacy
- Supports security of cast ballots to prevent malicious tampering or unintended data loss
- Allows voters to verify that their ballot choices are recorded correctly
- Allows for full public disclosure of records that enable election results to be double checked



*Casting a traditional paper ballot*

## 3. Full Support for both Paper Ballots and Electronic Recording

- Provides consistent ways to define paper and electronic ballots
- Enables paper ballots to be optimized for use with computer scanning
- Provides consistent ways to record candidates and issues to ensure fairness
- Allows the use of special balloting equipment to promote accessibility

## 4. Voter Registration and Information Provisioning

- Provides consistent approach to voter registration;
- Enables voters to easily locate their polling location
- Standardizes absentee, overseas and military voter registration
- Simplifies information sharing with political parties and other accredited organizations



*Election monitors oversee voting process*

## 5. End-to-End Election Integrity

- Specifies standards for the exchange of information throughout the election processes
- Provides common interfaces that can be tested to ensure accuracy, consistency and verifiability
- Provides a uniform and reliable way to allow different election systems to interoperate
- Enables reliable certification and testing with publically accredited test suites

**Continued on next page**

## 6. Benefits for Election Officials

- Increases transparency so that the election process can be better managed by election staff
- Enables consistency in the application of election rules and procedures
- Allows greater choice of products and suppliers thus avoiding proprietary lock-in
- Allows customization to meet the needs of different jurisdictions

## 7. Benefits for Suppliers

- Increases potential market and reduces development costs through standardization
- Provides a common core but allows local customization and extension
- Allows compatible innovations to be marketed without having to replace entire systems
- Support for accessible voting systems, multi-lingual balloting and kiosk-based voting

## 8. Support for all types of counting methods

- Supports cumulative, block, supporter list and other election types
- Provides full transparency for results counting at all levels
- Supports the counting of absentee ballots on polling day
- Provides analysts and news media organizations with consistent details about election results

## 9. Independent confirmation of election results and totals

- Provides for confirmation of the results that vendors' machines produce
- Enables publication of election results including cast ballots and intermediate tallies
- Provides for system certification involving formal testing suites and independent checking
- Provides an open standard that can be used to verify counts using more than one type of software

## 10. Approved voting processes and best practices

- Ensures open processes that are vital for healthy democracy
- Provides ways for jurisdictions to improve their procedures to meet latest challenges
- Developed with the flexibility to support democratic process that differ internationally
- Internationally approved and peer reviewed standard

For more information see the “The Case for EML” white paper on the OASIS Election Services Committee website:  
<http://www.oasis-open.org/committees/election>

OASIS (Organisation for the Advancement of Structured Information Standards) is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global information society.  
<http://www.oasis-open.org>