

The Election Markup Language

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- Drivers
- OASIS and the E&VSTC
- The Scope of EML
- The Voting Process
- The Election Markup Language
- Security
- The UK Pilots

- Voting is critical to the democratic process
- People's expectations have changed
- Increased turnout adds legitimacy to the electoral process
 - but e-voting alone will not be enough
- The US 2000 presidential election provided impetus

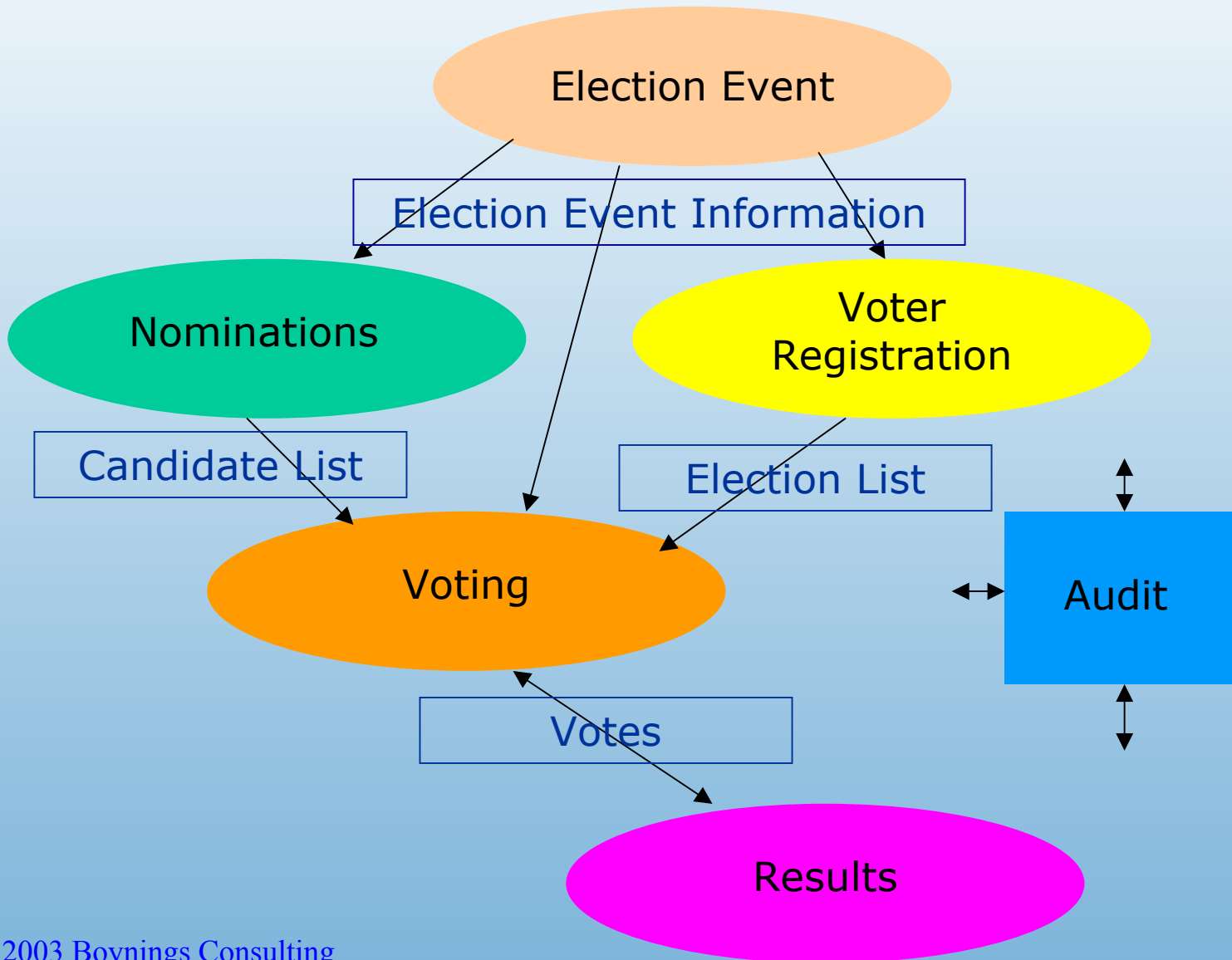
- OASIS is an international, not-for-profit, open, independent member consortium dedicated to building systems interoperability specifications
- OASIS has a mission to drive the development, convergence & adoption of e-business standards
- OASIS operates through a number of Technical Committees (TCs)

- The Election and Voter Services Technical Committee
- Formed in 2001 and chaired by the UK Office of the e-Envoy
- Membership drawn from
 - governments
 - election service providers
 - software vendors
 - media
 - open source groups
 - interested individuals

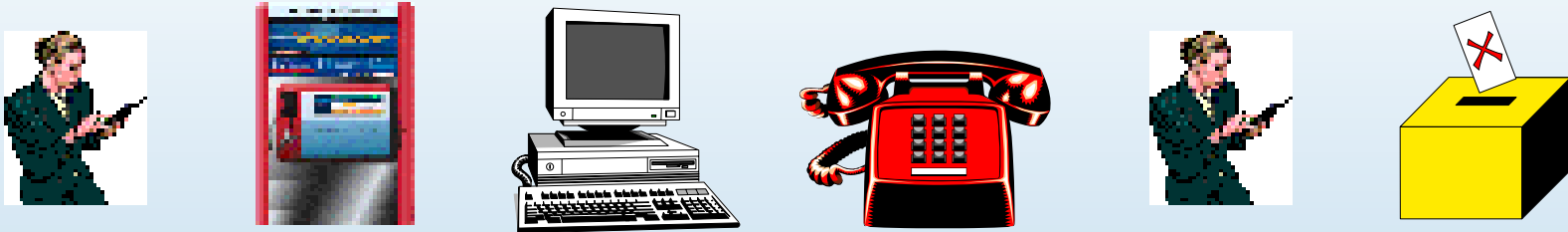
The purpose of the Election and Voter Services Technical Committee is to develop a standard for the **structured interchange of data** among hardware, software, and service providers who engage **in any aspect of providing election or voter services to public or private organizations**

- Covers all aspects of the election and voting process for the public and private sectors
- A deliverable is the Election Markup Language
 - a vocabulary and set of message-oriented schemas
 - a mechanism for election scenario specific customization

The Voting Process



The Voting Process



Proprietary Protocols

G a t e w a y s

Ballot Messages

Authentication Messages

Voting Messages

Voting System

Votes

Logs

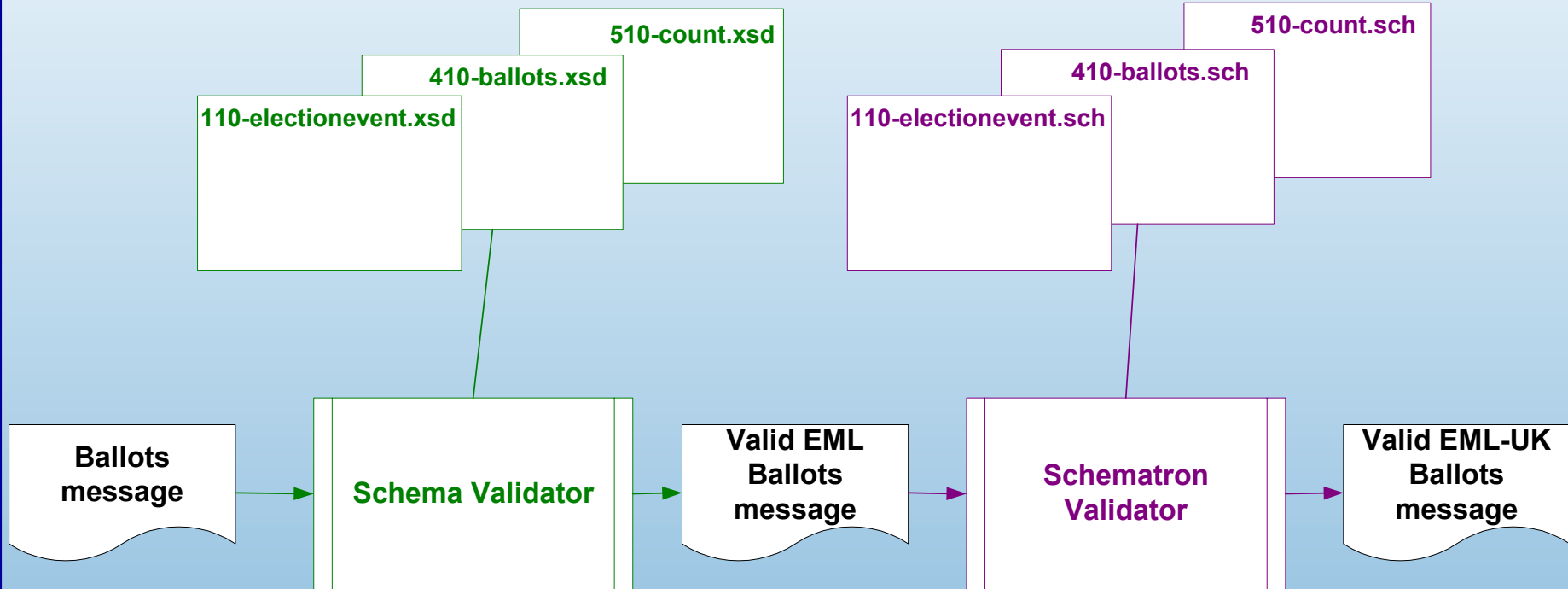
Audit

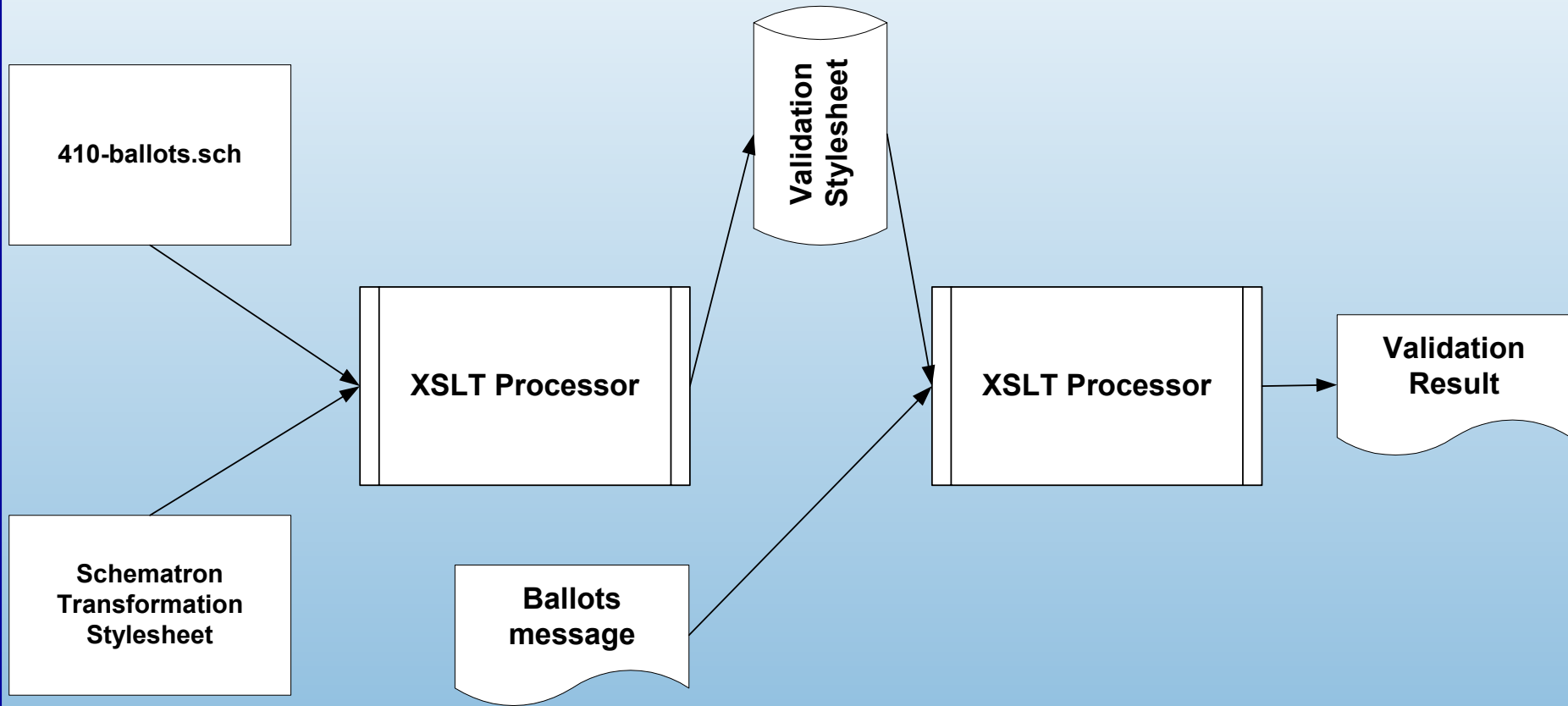
The Election Markup Language

- Messages are defined by W3C XML schemas
- Common core set of definitions
- Documentation of process and schemas
- Sample scenarios
- Sample stylesheets
- Localization mechanism

- One problem with a generic language is that much must be optional
 - must be able to identify a voter for a company AGM
 - must not be able to identify a voter for a US Presidential Election
 - therefore "Voter" is optional in the "Cast Vote" message
- W3C schemas are supplemented with Schematron schemas

EML Localization





Security Requirements

- Identity authentication
- Right to vote authentication
- Vote sealing and non-repudiation of vote accuracy
- Vote confidentiality
- Voting audit

- Voting tokens ensure authority to vote whilst allowing anonymity
- Votes can be sealed
- There are messages to support logging of the use of voting tokens and seals

- EML was used extensively in the 1 May 2003 local elections
- The experiences of this will be reviewed with the participants and the E&VSTC

- EML v3 is a Committee Recommendation
- The Council of Europe will adopt EML for use across across Europe
- Use it now for pilots
- We need to know fitness for purpose for as many election types as possible

Acknowledgements

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