e–Voting Standards for UK Elections

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E-Voting in the UK

• Aim: An e-enabled General Election some time after 2006
• Kiosk voting and remote unsupervised voting
• Multi-channel: Internet, Telephone, SMS, Digital TV, Polling stations, Post
• Pilots testing systems for security and reliability, and building voter confidence
E-Voting in the UK

• Critical Success Factors:
  – Making voting more straightforward for the public and more aligned to everyday life
  – Making elections more accessible, more convenient and more attractive
  – Maintaining public confidence in the security of the systems
  – Improving the efficiency and effectiveness of electoral administration
  – Contain costs
E-Voting Pilots in the UK

• 2002 pilots
  – 9 English local council wards
  – multi channels

• 2003 pilots
  – 19 English local councils
  – multi channels

• 2004 and beyond
  – Further types of elections, eg County Councils, GLA, European, Scottish Parliament, Welsh Assembly
Voting Processes

● Pre election
  • Declaration of Elections
  • Nominating Candidates
  • Formulating Referendum Options
  • Registration of Voters

● Election
  • Casting of Votes

● Post election
  • Declaring Results
  • Audit
  • Analysis
Related Activity

- OASIS e-Voting Technical Committee
- Council of Europe
- CORE project
OASIS

Election & Voter Services Technical Committee
OASIS Mission

To drive the development, convergence & adoption of e-business standards.
TC History

- Formed March 2001
  - election.com, Accenture, Microsoft
- Inaugural Meeting May 2001
- Chair: UK Office of E-Envoy
- Regular meetings and workshops to date
  - Teleconference and face-to-face
Committee Charter

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.
Committee Membership

• Governments
  – UK, USA, Australia, NZ
  – indirectly Council of Europe
• Corporations
• Election service providers
• Media
• Election reform and watchdog groups
Deliverables

- Election Markup Language (EML)
  - Data interchange standards to support voting processes
  - Defined as XML schemas
- Facilitate all aspects of election and voter services, public and private
- Sanctioned through OASIS
Benefits of using EML

• More choice of products and suppliers
• Less dependency on a single supplier
• Avoid proprietary lock-in
• Stability or reduction in costs
• Accommodate future changes more easily
• Common core but allows local customisation / extension
Why Interchange Standards?

- Need for information to be exchanged at several points in the election process
- Several parties involved
- Need to service dissimilar systems and equipment
- Open process
Why XML?

• Widely accepted open standard
• Ability to support disparate systems
• Text based
• Easy to understand and implement
• Extensible
• International
Documentation

• Process and Data Requirements
  – Outlines voting processes
  – Identifies data requirements
  – Contains glossary of terms
  – Addresses security issues

• XML Schemas
  – Overview of approach taken in preparing the schemas
  – Individual schemas

http://www.oasis-open.org/committees/election
EML Localisation

- Need to localise EML to reflect national circumstances
- Restrict certain parts, and/or add local elements
- ‘Schematron’ used to handle and apply localisations
- EML(UK) prepared for use in pilots
- Documents on www.govtalk.gov.uk
Security

Key security requirements are:
- Identity authentication
- Right to vote authentication
- Vote sealing and non-repudiation of vote accuracy
- Vote confidentiality
- Voting Audit
Compliance and Accreditation

- Assurance that approved ICT solutions are used to support e-voting is an essential aspect of building trust and confidence of everyone involved in elections.

- Plan is to introduce accreditation processes that allow for any ICT component or service to be tested and certified as being conformant with the standards.

- Election officials will only purchase accredited systems or services.
Council of Europe
CoE Work

• 43 countries, larger membership than EU
• Working groups to agree standards for e-voting at legal, operational and technical levels
• Members have input requirements for their election systems into EML v4
• Ministerial directive later this year
  – Recommend EML as core technical standard
CORE Project
Project Scope

- Project led by ODPM, launched 15 Jan ‘04
- Two phases
  - standardise local electronic electoral registers
  - allow authorised users to access local registration data centrally and will support multi-channelled, e-enabled elections
- Make registers EML compliant by end 2004

http://www.odpm.gov.uk/stellent/groups/odpm_localgov/
Future work

- Future versions EML to reflect experiences learnt from UK and other pilots
- Accommodate other types of election systems
- Develop compliance accreditation processes
- Ongoing enhancements and review to accommodate any changes in voting policies/legislation
- Move EML to an ISO Standard
Thank you

Any Questions?

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