Mr John Borras (Director of Technology Policy, Office of e-Envoy, United Kingdom):
"Technical standards for e-voting"

, . OASIS Election & Voter Services Technical Committee is focusing on the work that is being undertaken on technical standards to support e-voting.   OASIS is the international, member-driven XML consortium and its Mission is to drive the development, convergence and adoption of e-business standards.

The committee's charter 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". The committee was formed in March 2001 by 3 private sector companies and is now chaired by the UK's Office of e-Envoy. It holds regular meetings and workshops, either by teleconference or face-to-face. The membership includes the governments of UK, USA, Italy, France, Australia, and NZ, plus many well-known private sector Corporations, Election service providers, Media organisations and Election reform and watchdog groups. In addition the committee has more recently been working with the Council of Europe to include requirements from member states across Europe including members of ACEEEO.

The primary deliverable from the committee is the Election Markup Language (EML), which a set of data interchange standards to support voting processes, defined as XML schemas, which facilitate all aspects of election and voter services, both public and private. The voting processes covered by EML are:
- Pre election
    - *Declaration of Elections*
    - *Nominating Candidates*
    - *Formulating Referendum Options*
    - *Registration of Voters*
- Election
    - *Casting of Votes*
- Post election
    - *Declaring Results*
    - *Audit of all processes*
    - *Analysis of the vote and result*

It should be recognized that these processes may be run by different organisations, at different times, using different hardware and software or service providers. But there is a need to exchange data between the processes, for example data from the voters' registration system and the candidates' nomination system are required to formulate a ballot paper. So interoperability based on open, international standards is a vital requirement to supporting an e-enabled election.

The benefits of using EML are:
- 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

Work is currently underway on the next version of EML, version 4, and this will reflect experiences learnt from recent e-voting pilots in the UK, it will include new requirements from Council of Europe member states, will accommodate other types of election systems, eg Referendums, and begin to develop compliance accreditation processes.

Experience gained from the UK pilots has shown how a generic international standard like EML can be customised to meet specific national requirements through the use of Schematron or similar languages. The UK's customisation documentation is available at www.govtalk.gov.uk/schemasstandards/agreedschema_schema.asp?schemaid=201.

The EML standard for data exchange is only one component of running an e-enabled election. Standards are required for other aspects like security and accessibility, but the OASIS committee does not have the remit to address those factors. However the work being undertaken by the Council of Europe is addressing those issues and will be making recommendations in due course of those other aspects.

Information about the Technical Committee as well as the latest copy of EML are available on www.oasis-open.org/committees/election and John Borras can be contacted at john.borras@e-envoy.gsi.gov.uk.

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