Election Modeling

Status Update
What is Modeling?

- “All models are wrong; some models are useful” – George Box
- Abstraction of real world
- Holistic picture
Why do we Model?

- Create a common basis of understanding
- Provide a learning tool
- Provide a blueprint for elaboration
- Establish current and best practices
- Identify Common Data Format (CDF) Use-Cases
- Serve to derive requirements (VVSG)
Why do we model (continued)

- Helps identify Use-Cases for Common Data Formats
  - “Is there a CDF for this interchange?”
  - “What data inputs are required to support this process?”
- Traceability of Requirements
  - “Is there a requirement for this task?”
  - “Do the requirements trace to a task?”
- Provides Scope of Requirements
Why do we model (Requirements)

Laws, Policies and Rules
• Provide inputs for...

Election Processes
• Automated via...

Information Systems
• Built according to

Requirements
• (VVSG, Common Data Formats)
The purpose of election modeling is to establish an implementation-independent baseline understanding of election data, its inter-relatedness and minimum required attributes. The model is based on a high level but comprehensive understanding of the processes that are common to elections. The model provided establishes common terminology that contributes to a more formal glossary and serves as a tool for the development of other election-related standards.”
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**Election Models**

**Common Data Formats**

**Common Data Formats**

**OCL**

**Schematron**

**Scope Contexts** (Scope Identification Lists)

**Business Concepts** (Business Definition Models)

**System Logic** (System Representation Models)

**Technology Physics** (Technology Specification Models)

**Tool Components** (Tool Configuration Models)

**Operations Instances** (Implementations)

**The Enterprise**
Methodology

• **Elicitation**
  ◦ Interview Subject Matter Experts
  ◦ Make sure everything makes sense at micro level

• **Validation**
  ◦ Ensure work is broadly applicable
  ◦ **Alignment**
    • Make sure everything makes sense as a whole
      • No Overlap
      • Complete
Publicizing the work

TIMELINES AND NEXT STEPS
Business Modeling (Status)

- Process Catalog
  - List of Processes (Scope) – 100% Complete

- Process Model
  - Elaboration of Processes – 80% Complete

- Business Motivation Model
  - List of policies derived from law – 60% Complete

- Organizational Structure Model
  - Describes Organizational Roles – 80% Complete
Glossary (Status)

- Describe election terms
- Establish synonyms
- Create common definitions, consistently used Across...
  - Process Models
  - Data Models
  - Common Data Formats
  - VVSG
Semantic Data Model (Status)

- Common Data Formats are one-offs
- Ensures that data items and especially their relationships are defined rigorously
- A catalog of data items
Timeline

- **Q4 2017**
  - Completed Business Model

- **Q1 2018**
  - Revised Glossary
  - Completed Semantic Model

- **Q2 2018**
  - Completed UML Data Model
  - New Common Data Formats
Thank You!

John Dziurlaj
Hilton Roscoe LLC
(234) 706-6434
john@hiltonroscoe.com