

PODS Spatial Update

Agenda



- PODS Spatial Working Group Review
- ESRI Sub-Committee
 - Current work
- Questions/Answers

PODS Spatial Working Group



- Objectives

- Establish an industry-wide collaborative environment
- Development of industry Standard PODS-Compatible database model(s) or extension(s) that will spatially enable PODS
- Maintain “vendor neutral” open concept (PODS Relational Model) but also recognize the need to integrate with proprietary spatial technologies
 - Formation of an Oracle Spatial sub-committee focused on an Oracle Spatial solution that will support implementation with SmallWorld, Intergraph, and Autodesk
 - Formation of ESRI sub-committee focused on an ESRI Geodatabase solution compatible with ArcGIS 9.x and beyond

ESRI Sub-Committee



- Memorandum of Understanding (MOU) between ESRI, PODS and the APDM executed to facilitate initial work
 - *PODS ESRI geodatabase will utilize the APDM core classes*
 - *APDM core classes will be enhanced or extended to support PODS as necessary*
 - ESRI will maintain ownership and control of the APDM
 - The PODS Association will utilize APDM technology under license from ESRI
 - The PODS Association will own and maintain the PODS ESRI Geodatabase and Geodatabase Lite models
 - PODS and the APDM will maintain their exclusive and respective branding
 - PODS interests will be represented and protected within the APDM
 - The PODS Board of Directors will appoint an ex-officio member to the APDM Steering Committee
 - Will have full voting rights on changes and modifications to the APDM core classes

ESRI Sub-Committee



- The MOU established the current PODS ESRI Spatial sub-committee as a temporary committee
 - Concentration on initial PODS Spatial geodatabase implementation
 - Equal representation from PODS and APDM members
 - Bridge to a standing APDM/PODS joint committee
 - Ongoing maintenance of the APDM abstract and core classes
 - Work Product
 - PODS ESRI Geodatabase Lite – *freely distributed*
 - Consisting of common APDM core classes and a limited number of the PODS tables
 - PODS ESRI Geodatabase – *PODS members only*
 - Consisting of common APDM core classes and all PODS event and domain tables
- Volunteer team members
 - Chair
 - Mike King, BP America (PODS)
 - Co-chair
 - Tracy Thorleifson, EIM (PODS/APDM)
 - PODS
 - Darrell Donaho, Kinder Morgan
 - John Minassian, Geofields
 - Ron Brush, New Century Software
 - APDM
 - Luke Hutmacher, El Paso
 - John Spangler, GE Infra,
 - John Utley, El Paso
 - John Alsup, ESRI
 - Jennifer F. Bonnin, EIM (Secretary)

Current Work

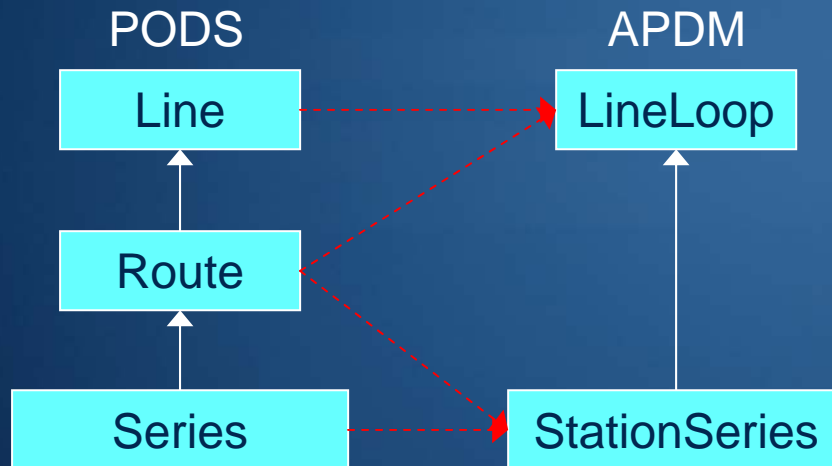


- PODS ESRI geodatabase will utilize the APDM core classes
 - *How does the PODS core map into the APDM core?*
- APDM core classes will be enhanced or extended to support PODS as necessary
 - *Are there any PODS concepts missing from the APDM core?*
 - Corollary: Are there any APDM concepts missing from the PODS core?
- **LOTS** of energy around these questions!
 - Much co-education required for both PODS and APDM team members
 - Guiding principles
 - Minimize the impact of any proposed APDM core changes to existing APDM implementations
 - Lose no PODS information content
 - Progress is slow, but
 - All remain committed to working together
 - We are making progress!

Current Work



- Problem #1 – Mapping PODS to the APDM
 - How do we resolve a centerline hierarchy mismatch?



- PODS and the APDM use different entities to store the centerline hierarchy
 - There is no clean one-to-one mapping of centerline entities between the two models

Current Work



- Problem #2 – PODS concept missing from the APDM
 - How do we preserve the PODS Route-Series relationship?
 - In PODS, a Route is always composed of one or more Series
 - In the APDM, StationSeries of differing types (reference modes) are all more or less considered equal
 - The APDM does not support the concept of ‘compositional’ relationships between different types of StationSeries
 - Some sort of enhancement to the APDM core is required to support this PODS information content

Current Work



- Problem #3 – PODS concept missing from the APDM
 - In PODS, all measures (all types of station values) are stored together – can we preserve this data storage mechanism?
 - In PODS, Measure and Station are stored together in the same row in a single table (Station_Point)
 - In the APDM, only the primary reference mode Station value is stored in the event class
 - All other reference mode Station values are stored in AltRefMode in separate rows
 - Can we make APDM measure/station value storage as efficient as PODS, and yet still retain the flexibility of the APDM?
 - Note: Poor performance has been reported for AltRefMeasure joins on very large datasets
 - Improving measure/station query performance is an APDM technical committee issue

Conclusion



- The PODS ESRI Spatial sub-committee is making progress towards a PODS Spatial geodatabase implementation
 - Progress has been slow
 - The problems being wrestled with are fundamental in nature
 - Progress is being made
 - The sub-committed remains committed to working together
 - Multiple solutions for each of the three problems presented have been considered and extensively debated
 - “Best fit” solutions have been agreed to within the sub-committee
 - » Presentations to the PODS and APDM technical committees are currently under preparation
- Stay tuned for further updates at GITA