

PODS Working Group Charter

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Section 1 – Working Group Plan

Version: 1.4
Date: April 10, 2006

WG Name:

PODS Spatial Implementation Working Group

Members:

Chairman: Mike King, BP America

Co-Chairman: Ron Brush, New Century Software

Secretary: Scott Moravec, Eagle Information Mapping

PODS Technical Committee liaison: Costas Kotzabassis, Blue Sky Development

The Working Group will consist of two Sub-Committees: an ESRI Sub-Committee that will focus on an ESRI Implementation of PODS; and an Oracle Spatial Sub-Committee that will focus on solution(s) that will support the implementation of PODS with SmallWorld, Intergraph, and Autodesk.

ESRI Sub-Committee members:

- Scott Moravec, Eagle Information Mapping (Lead)
- Keith Cote, MOORE Resource Systems
- Hai-Li Wang, Chevron
- David Frye, ESRI
- Doug Thorpe, Duke Energy Field Services
- John Minassian, Geofields
- Jennifer Flax, Petris
- Daniel Barry, American Innovations
- Rene Ramirez, Blue Sky Development
- Robert Maggio, Petris
- Benny Guo, Enghouse

Oracle Spatial Sub-Committee members:

- Brad Grabowski, GE Energy (Lead)
- Blake Philpot, GE Energy
- Jay Smith, GE Energy
- David Glenn, Intergraph
- Stephen Brockwell, Autodesk

- David Sipe, Oracle Spatial
- Costas Kotzabassis, Blue Sky Development
- Pipeline Operator representative(s) tbd

A Working Group Steering Committee will be formed consisting of the Chairman, Co-Chairman, Technical Committee Liaison, and the Sub-Committee Lead from each of the two Sub-Committees. The role of the Steering Committee will be to provide overall guidance and direction to each sub-committee and to ensure that the work produced by each sub-committee is consistent and in compliance with PODS. The two Sub-Committees will work in parallel and report to the Working Group Steering Committee.

Reporting frequency: Monthly

Objective:

The objective of the PODS Spatial Implementation Working Group is the development of industry standard PODS-compatible database model(s) or extension(s) that will spatially enable the PODS database to facilitate proprietary applications and PODS GIS integration. PODS will retain all intellectual property rights to each specification.

The PODS Spatial Implementation shall be consistent with the needs of the members and the vision of the Board. Therefore, a key objective is to maintain the "vendor neutral" open concept but at the same time recognize the need to integrate with proprietary spatial technologies.

It is acknowledged that ESRI is the predominant vendor of GIS applications within the Industry, therefore, the PODS Spatial Implementation Work Group shall form an ESRI Sub-Committee to focus on an ESRI ArcSDE/Geodatabase solution compatible with ArcGIS 9.x and beyond. It will provide a documented upgrade path for members desiring standards-based ArcSDE/Geodatabase integration with PODS. The PODS-compatible spatial model(s) or extension(s) will be optional and will not be required to be implemented for PODS compliance.

The PODS Spatial Implementation Work Group shall also form an Oracle Spatial Sub-Committee. This Sub-committee will focus on an Oracle Spatial Solution(s) that will support implementation with SmallWorld, Intergraph, and Autodesk.

Both Sub-Committees shall work simultaneously on the development of the solution(s) but at the same time provide knowledge sharing between both sub-committees for consistency in approach and compatibility.

Sub-Committee Scope of Work

ESRI Sub-Committee

The scope of this Sub-Committee will be the development of a PODS-compatible ESRI Geodatabase solution.

Phase I – PODS ArcSDE Existing Implementations

Phase I will focus on documenting and providing a comparison of existing ESRI spatial implementation(s) of PODS databases which are based on stand-alone ArcSDE layers. Several pipeline companies are currently implementing their own version of an ESRI spatially enabled PODS database without an industry standard. While identifying an industry standard may not be achievable in the time available to this Working Group, we can recommend a limited number (2-3) of alternative methods for spatially enabling a PODS database in the ESRI environment.

Tasks:

- Document methods for spatially enabling PODS based on existing implementations using stand-alone ArcSDE layers. The target audience is a person who is familiar with ARC/SDE and the will be able to read the documentation to determine how to edit PODS.
 - There are three ways
 - Spatial attributes on all PODS event tables.
 - Add the spatial data outside the PODS tables with link to the event.
 - Add the spatial data outside the PODS tables and allow a one to many relationship between the events and the spatial characteristics.
- Develop a comparison of the advantages and disadvantages of each identified method for spatially enabling PODS using stand-alone ArcSDE layers
- Develop documentation and submit to the PODS Technical Committee

Deliverables:

- Documentation presenting results of compilation and comparative analysis

Phase II – PODS Geodatabase Specification

Phase Two will build upon the concepts developed in Phase I to develop a stand-alone ESRI Geodatabase implementation. This is planned to allow increased utilization of Geodatabase capabilities, such as feature linked annotation, geometric network, topology, and versioning. The specific requirements will be defined by the Spatial WG Sub-Committee. Note that the PODS Geodatabase will not replace the existing PODS model, but will specify a standard spatial implementation of PODS in a ESRI GeoDatabase. Furthermore, the event tables and columns in the PODS and the PODS Geodatabase are intended to remain generally consistent.

Tasks:

- Suggestions/review by ESRI
 - Review IP contract
 - Review of 9.2 history features vs. PODS history.
 - Review of Topology vs. Geometric Network vs. Network Data Model.

- Review of PPDM Lite, APDM and other similar Geodatabase models
 - Ron Brush, Daniel Barry, Dave Frye to provide geodatabase samples
 - Submission of suggestions/models from Working Group members
- Draft of PODS Geodatabase – Logical Core Model (conceptual)
- Draft of PODS Geodatabase – Physical Core Model (implement)
- Pilot test implementation by Working Group members
- Review results of Pilot test implementations
- Recommendations for PODS Geodatabase Implementation
- Develop documentation
- Submission of deliverables to PODS Technical Committee for approval
- Submission of deliverables to the PODS Board of Directors for approval and inclusion in PODS Technical Standards

Deliverables:

- Pilot multi-user geo-database
- Results of the pilot implementation and evaluation, including test PODS geo-database
- Documentation describing recommended practices of defined processes
- Data dictionary with table and field descriptions
- E-R diagram, UML model in Visio format, and/or DDL Scripts as required

Phase III – PODS Geodatabase Implementation Processes

Phase III is the development of processes that will define the extraction and/or replication of data between the PODS data model and the PODS Geodatabase. This phase will describe processes and recommended practices and may include DDL and/or other scripts to facilitate these processes, but will not include software.

Tasks:

- Determine processes and procedures for extracting and/or replicating data between the PODS model and the PODS Geodatabase
- Develop DDL and/or other scripts as required
- Develop documentation and submit to Technical Committee for approval as Best Practices

Deliverables:

- PODS Logical Geodatabase UML Model - Visio format
- PODS Physical Geodatabase UML Model - Visio format
- Sample PODS Personal Geodatabase
- Sample PODS Multi-user Geodatabase
- PODS Geodatabase User documentation
- PODS Geodatabase Technical documentation
- Working Group report suitable for publication

Oracle Spatial Sub-Committee

The scope of this Sub-Committee will be the development of a PODS-compatible Oracle Spatial solution.

Phase I – Evaluation of Existing Linear Oracle Spatial Solutions

Phase I will involve the discovery and due diligence evaluation of existing linear Oracle Spatial solutions. Specific focus will be on examples from the transportation industry. Identification of the pros and cons associated with each solution shall be identified. Identify methodology for determining the appropriate geometry realization of the PODS event tables. Analyze the gap between the existing PODS tables and Oracle Spatial with determining the feasibility of dynamic rendering of the events for graphic visualization is the desired solution.

Tasks:

- Determine the basic requirements and functionality of the Oracle Spatial interaction with PODS
- Document methods of linear Oracle Spatial solutions based on examples from the transportation industry.
- Develop a comparison of the advantages and disadvantages of each identified method
- Identify the gaps between the existing PODS tables and Oracle Spatial.
- Identify the appropriate CASE tools for use with Oracle Spatial
- Define use cases for rendering with Oracle Spatial

Deliverables:

- Document the basic requirements and findings of the discovery and due diligence evaluation and submittal to PODS Technical Committee.

Phase II – Development of the design basis and Geometry Relationships and development of Prototype

Phase II will involve the development of the design basis and determination of the geometry relationships and how they will be graphically represented. Develop a prototype for “Proof of Concept” with graphic visualization utilizing Oracle’s MapViewer. This will be an iterative process based on feedback from Working Group Steering Committee, Sub-Committee members, PODS Technical Committee and other PODS members. Development of a process map for creating the rules/transform to identify the mapping relationships between PODS and Oracle Spatial will also be included.

Tasks:

- Create a process map
- Develop the Prototype based on the design basis
- Test for scalability and performance
- Identify a PODS member representative sample of a populated PODS database.
- Define minimum software and hardware specifications

Deliverables:

- Prototype
- Documentation of the use case test scripts
- Provide transformation matrix to PODS Technical Committee for review and distribution
- Documentation of the results and non-functional requirements
- Submission of deliverables to PODS Technical Committee for approval to proceed to Phase III

Phase III – Completion of Oracle Spatial Integration, final Coding and Documentation

Phase III will involve the completion of the Oracle Spatial Integration with the final output of scripts, dump files, and a sample PODS database for use by the members.

Tasks:

- Development of documentation and implementation white paper
- Development of data base dump with prototype implementation
- Identify and recommend future steps and enhancements for consideration.

Deliverables:

- Submission of documentation to PODS Technical Committee for approval
- Submission of data base dump to PODS Technical Committee for approval
- Submission or recommendations for future work to PODS Technical Committee

Sub-Committee Guidelines

ESRI Sub-Committee

The Sub-Committee will follow the same general guidelines as were used in other working groups, including the following:

- Seek participation of PODS members and non-members
- Seek participation of members with hands-on Geodatabase knowledge and PODS knowledge
- Seek participation of pipeline operators, vendors, software service providers, consultants and related parties
- Seek contributions from participants, utilizing existing mature data structures where practical and applicable. IP contributions will be assigned to the PODS Association.
- Inclusive design – incorporating best practices from PODS, PPDM, APDM and recommended practices from ESRI
- Extensible design – providing users the ability to extend (add to) as necessary
- Face-to-face initial kick-off meeting and closure meeting
- Bi-weekly one-hour conference calls or as otherwise determined

Oracle Spatial Sub-Committee

The Sub-Committee will follow the same general guidelines as were used in other working groups, including the following:

- Seek participation of PODS members and non-members
- Seek participation of members with hands-on Oracle Spatial and PODS knowledge
- Seek participation of pipeline operators, vendors, software service providers, consultants and related parties
- Seek contributions from participants, utilizing existing mature data structures where practical and applicable. IP contributions will be assigned to the PODS Association.
- Inclusive design – incorporating best practices from PODS and recommended practices from Oracle Spatial implementations
- Extensible design – providing users the ability to extend (add to) as necessary
- Face-to-face initial kick-off meeting and closure meeting
- Bi-weekly one-hour conference calls or as otherwise determined

Working Group Schedule

Target 2006 Schedule:

- February 2 – Initial formation of WG conference call
- March 14-15 – initial Working Group Kick-off meeting in Houston
- August 1-2 – Second face-to-face meeting of Working Group (dates to be determined)
- August 7 – Presentation at ESRI User Conference
- September 1 – Presentation at GITA Oil & Gas Conference

ESRI Sub-Committee Schedule

- March 14-15 – initial Working Group Kick-off meeting in Houston
- March 14 – Planning Schedule
- March 15 - Approach John Alsup et al (ESRI) to provide input on the data model for pipelines.
- March 22 – Decision on IP language from ESRI.
- March 29 – Working group conference call/WEBEX about Phase 2 deliverables.
- April 5 – Meeting with ESRI technical staff for Phase 2 deliverables (Houston)
- April 5 – Geodatabase samples/review
- April 15 – Draft documentation due to Robert Maggio
- April 22 – Combined documentation due to Working Group
- April 30 – Phase 2 Implementation decisions
- May 1 – Design Schedule
- May 1 – Completion of ESRI Sub-committee Phase I
- May 15 – Logical Model
- June 5th – Physical Model
- June 12th – PODS Geodatabase v1
- June 21st – Face to face meeting
- July 28 – Completion of PODS Geodatabase v2 (ESRI Sub-Committee Phase II)
- September 1 – Construction Phase Schedule

- October 1 – Completion of ESRI Sub-Committee Phase II
- December 1– Completion of ESRI Sub-Committee Phase III

Oracle Spatial Sub-Committee

- May 1 – Feedback from GITA Conference discussions
- July 1 – Completion of the Oracle Spatial sub-committee Phase I
- December 1 – Completion of the Oracle Spatial Sub-Committee Phase II
- March 31, 2007 – Completion of the Oracle Spatial Sub-Committee Phase III

Section 2 – Technical Committee Review

Proposal received:

Initial version - 21 Feb. 2006

Interim version – 17 Mar. 2006 (Incomplete; Oracle Spatial Sub-committee material missing)

Final version – 12 Apr. 2006 (Oracle Spatial Sub-committee material added)

Reviewed by the Technical Committee:

Initial version - 22-24 Feb. 2006

Interim version – 7 Apr. 2006

Final version – 18 Apr. 2006

Reviewing members:

Initial version - R. Burden, K. Cameron, D. Cullom, S. Hills, C. Kotzabassis, J. McNaughton, S. Moravec, J. Williams, T. Young

Interim version – K. Cameron, D. Cullom, B. Ferguson, S. Hills, G. Hoover, C. Kotzabassis, S. Moravec, T. Young

Final version – R. Burden, K. Cameron, D. Cullom, B. Ferguson, S. Hills, C. Kotzabassis, S. Moravec, T. Young

Recommendation to the Board:

The Technical Committee (TC) has reviewed three versions of this document and considers this, the "final version," well enough developed to recommend that the PODS Board formally approve it as the Working Group's charter.

The TC did recognize one potential issue which should be explicitly acknowledged by the Board. That issue is described in the "Guidance to Working Group" below. If documentation delivered by the Working Group does not meet the requirement specified below, and if PODS expects to maintain each spatial implementation, a separate technical group must be constituted for that purpose.

Guidance to Working Group:

The Technical Committee does not have the resources needed to maintain the deliverables produced by this Working Group as the PODS relational model evolves. As a result, the documentation delivered by this WG must include enough information for others to produce an updated version of each spatial implementation using the then-current PODS relational model.

Section 3 – Board Approval

Recommendation approved: <Authorized Board representative>

Date: <Date>

Comments: <Optional>

Process Description

1. **Purpose** – the Purpose of the Working Group Charter is three-fold:
 - a. To clearly delineate the scope of and deliverables for proposed work or changes which impact PODS technical standards.
 - b. To establish mechanisms for communication between the proposed Working Group and the PODS Technical Committee which will facilitate the Working Group's progress and incorporation of its results into existing PODS technical standards.
 - c. To authorize such proposed work or changes. The proposed changes are thus brought about through Working Groups formed under the authority of the PODS Technical Committee and authorized by the Board.

2. **Section 1** is to be completed by the individual or individuals proposing to initiate the new Technical Committee Working Group (subcommittee).
 - a. Regular written status reports to the Technical Committee are required. The proposed period between reports should be consistent with the rate at which the Working Group plans to progress. Bi-weekly or monthly updates are considered typical.
 - b. Identification of a Technical Committee Liaison is optional. Whether or not a Liaison is identified, a written status report is still required.
 - c. Self-explanatory entries for “Scope” and “Objective” are critical. They should include enough information to allow the Technical Committee to assess the impact of the proposed Working Group’s activities on the PODS standards for which the Technical Committee is responsible.
 - d. “Deliverables” will vary according the stated objectives, but at the very least should include documentation for the Working Group’s results. If one of the Working Group’s objectives is to alter the PODS data model, other required deliverables include:
 - i. an Entity-Relationship Diagram,
 - ii. a Data Dictionary for all new or modified model objects, and
 - iii. a listing of existing objects in the then-current PODS data model which will be impacted (modified or dropped) by the proposed model alteration.
 - e. Note that changes to the initial Charter may be effected at any time by submitting a new version for review and approval.

3. **Section 2** is to be completed by the Technical Committee.
 - a. If the Technical Committee recommends that the Board approve the proposed Working Group charter, then “Guidance to Working Group” will identify issues about which the Working Group should be aware, and provide recommendations to facilitate incorporation of their results into existing standards.
 - b. If the Technical Committee recommends that the Board reject the proposed Working Group charter, then “Guidance to Working Group” will present the rationale for this recommendation, and indicate what changes to the plan, if any, would result in an acceptable charter.

4. **Section 3** is to be completed by a member of the Board of Directors authorized by them to represent the result of their review of both the charter and the recommendation provided by the Technical Committee.

- a. If the Board approves the Technical Committee's recommendation, one copy each of the approved charter will be archived by the PODS Secretary, returned to the Working Group Leader, and the Technical Committee Chair.
- b. If the Board rejects the Technical Committee's recommendation, the rationale for that rejection will be provided in "Comments," and the charter returned to the Technical Committee Chair. The Technical Committee will resolve the issues which resulted in the Board's rejection of its recommendation by discussing the charter with the Working Group and/or Board of Directors. When a resolution has been identified, the Technical Committee will resubmit the charter to the Board for their review and approval.