Oracle Spatial
User Conference

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Hyatt Regency Phoenix
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Spatial
Interoperability
Spatial Interoperability
Expanding Geospatial Intelligence with Mainstream Information Technology
Agenda

• Introduction – Why Interoperability?
  • Business Objectives
  • Technical challenges
• Overview of interoperability architecture

• Demonstration Scenario

• Examples of usage and business benefits
Business Objectives

- Businesses need to leverage their mature GIS environments while overcoming key issues:
  - Existing systems require specialty development and administrative skills that are difficult to find
  - Existing systems are expensive to deploy and maintain
  - For most utilities and telcos the corporate direction is to use Oracle wherever possible
- A demand for spatially enabled business applications
- Avoidance of system migration
Key Technical Objectives

- Ability to retain viability of the data
  - Avoidance of data loss
  - Support of unique system differences
  - Prevention against corruption
- Support for additional geospatial features
  - Symbology, styles and visibility
  - Network topology support
- Conflict resolution
- Support for data model transformation
- Longer term support for multiple spatial platforms
Architectural Overview

- This example is based on interoperability between GE Smallworld and Oracle Spatial

![Diagram showing interoperability between GE Smallworld and Oracle Spatial]

Smallworld Client

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Use of FME as an Interoperability Platform

- Data model transformation support
  - Attribute name and type changes
  - Feature merging and splitting
  - Relationship generation
  - Validation
  - Topology generation
- Scalability via the use of FME Server
- Web based initiation, interaction and resolution of synchronization processes
- Coordinate system support
Extensions to FME via the Opatial Plug-in

- Support for external naming conventions
- Integration with system authorization models
- Support for metadata extraction, including
  - Data model
  - Styles
  - Plot metadata
  - Application environment settings
- Unique Value Allocator (UVA) mapping to force automated join resolution
- Support for GIS "Internal World" constructs
Interoperability Data Flows
Conflict Resolution

- Major issue is the support for multiple users operating under a long transaction model
- Objective was to leverage source and target tools for detecting and resolving conflicts
- Designated alternatives for read/write operations used for synchronization operations
- Conflicts can be identified and resolved in the system, resolution results are sent to the peer
- Use of the fme_db_operation attribute supports tolerance of redundant changes
Conflict Resolution (2)
Use of standard FME Workspaces supports mapping between the systems
Examples of Usage

- Retention of existing GIS environment to support core mapping and design applications
- Use of Oracle Spatial applications to support business applications
  - Customer service applications
  - Business reporting
  - Query and view applications
  - Market support applications
- Network modeling applications are now feasible based on the 11g model
DEMONSTRATION

Spatial Interoperability
Business Benefits

• Avoid migration of established legacy GIS
• Leverage mature sources of spatial data
• Take advantage of the Oracle Spatial Value proposition:
  • Use of Oracle database technology and supporting infrastructure
  • Industry standard development environment
  • Standards-based integration environments
  • Lower overall cost of deployment
• Empower organizations with new, spatially enabled business applications
Q&A