Bridging the Vision with Technology

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Utilities Under Enormous Pressure

**Increasing**
- Customers
- Costs
- Financial Demands
- Regulatory Pressure
- Security Threats
- Reliability Demands
- Environmental Conflicts

**Declining**
- Energy Resources
- Experienced Professionals
- Investment Resources
- Infrastructure Quality - Aging
- IT Project Credibility

...Creating A Demand for Good Performance
Other Utility Issues

- The Economy
- Impact of 9/11
- The Blackout of 2003
- Formation of RTOs
- Merger And Restructuring Activities

... Creating A Need For New Approaches
Utility Response

• Return to core competency
• Dramatic focus on reducing costs
• Achieving operational excellence
• Improve customer service and image
• Drive toward financial stability
The Vision – Why We Are Here

• Using GIS to achieve utility goals
  – GIS is strategic – not just about mapping
  – GIS has broad applications throughout the utility
  – GIS can be the glue that binds the utility processes together
Bridging the Vision with Technology

- Intelligent GIS
- Distributed GIS
- Web Services
- Interoperability
- Mobile GIS
- Embedded GIS
- Visualization
GIS Is Becoming Intelligent

- Data Models
- Geodata Sets
- Workflow and Process Models
- Maps and Globes
- Metadata

... Represent Geographic Knowledge
Component Architecture Allows GIS Logic To Be Distributed
Web Services

Internet Map Services

GIS Portal

Standard GIS Products

Custom Products

Mobile Services

Properties

Imagery

Base Map

Facilities

Environmental

Distributed GIS Services

... The Key To Sharing Data (Services) With Government
Interoperability

Extract / Transform / Load (ETL)

Data Conversion

Internet Web Services

100+ Formats

GIS Server

100+ Formats

Clip/Zip/Ship
Mobile GIS

... Version Replication / Synchronization
Embedded GIS

Developer Technology

Custom Application

- Custom Applications
- Field Units

Geodatabases

... For Embedding GIS in Application
Visualization

... With Real Time Information
Business Model of a Typical Electric/Gas Utility

Continuous Inter-Related Processes

Energy Procurement

Supply Chain/Logistics

Gas/Electric Transmission

Information Technology

Finance and Accounting

Gas/Electric Distribution

Corporate Services

Customer Care
Energy Procurement

- Trading
- Load Estimation
- Daily Load Forecasting
- Weather integration
- Loss assessment and analysis
- Transmission Congestion

...GIS means business!
Gas/Electric Transmission

- Right of Way Modeling
- Transmission Line Siting and design
- 3-D Modeling
- Inspection
- Structure maintenance
- Lightning Strike Assessment
- Vegetation Management
- HCA
- Code Compliance
Gas/Electric Distribution

- Distribution Engineering
- Distribution Design
- Mapping
- Leak Management
- Tree Trimming
- Field Force Management
- Asset Management
- Outage Management
- One call
- SCADA Integration
Customer Care

- Meter reading
- Service order tracking
- Collections by demographics
- Outage visualization
- Target marketing for gas expansion
- Economic development
- DSM and Conservation monitoring
- Emergency Management

. . . Go where the customers are
Supply Chain/Logistics

- Fleet Management
- AVL
- Buildings care
- Service center siting/consolidation
- Optimal crew routing
- Optimal warehousing

Delivery

Property/Real Estate Management

... GIS helps you find your way!
Information Technology

- Network Asset Management
- Configuration Management
- Telecommunications
- Work force deployment to field offices... Geography is everywhere... Geography is everywhere
Finance and Accounting

- Continuing Property Records
- Street light management and accounting
- Rate research and development
- Property tax management
- FERC filings
- M&A due diligence
- ERP Integration

... Follow the money
Corporate Services

- Tracking personnel
- Safety tracking by districts
- Regulatory reporting of reliability stats
- Mapping of customer satisfaction surveys
- Maps in support of lawsuits, environmental spills

... Expand the use of GIS
Summary

• See GIS solving Real Utility Business Problems
• GIS is strategic – not about mapping
  – AM/FM no more!
• ESRI is evolving tools to meet the needs of the entire utility enterprise