

Automating Field Data Capture and Management

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GeoGathering 2011

GIS for Gathering and Production Lines

Agenda

- GTI Introduction
- Intelligent Utility System
- Applications for Gathering Lines

- > Not-for-profit research, with 65+ year history
- > Facilities
 - 18 acre campus near Chicago
 - 200,000 ft², 28 specialized labs
- > \$60+ million in revenue
- > Staff of 250
- > A growing business
- > Commercial partners take our technologies to market



Offices
& Labs



Energy & Environmental Technology Center

Flex-Fuel
Test
Facility

Addressing Key Energy Industry Issues Across the Value Chain



Supply

Expanding the supply of affordable energy



Delivery

Ensuring a safe and reliable energy delivery infrastructure



End Use

Promoting the efficient use of energy resources

GTI Membership Programs

- Collaborative funding mechanisms
- Operations Technology Development (OTD)
 - Leverage joint funding
 - Share IP
 - Direct selection of R&D projects

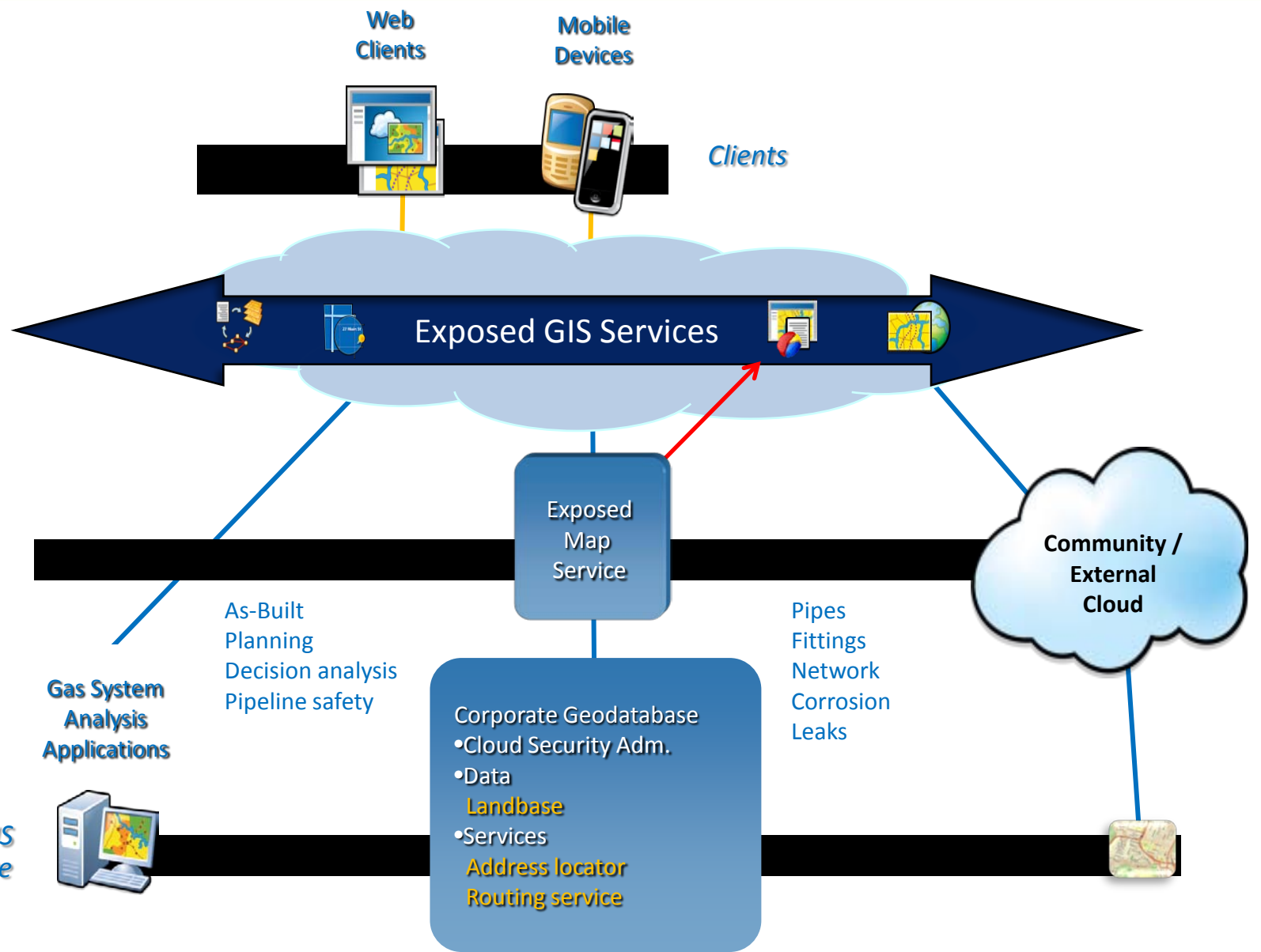
D&IM Program Research Objectives

- Reduce the cost of collecting field data
- Improve the accuracy and quality of field data
- Reduce back-office processing
- Streamline the integration of field data
- Create combined data sets that allow analysis and decision making
- Maintain or increase data security

Intelligent Utility System

- Low cost data collectors
 - Smart phones and tablets
- Cloud computing
 - Amazon Web Services
- GIS
 - Esri ArcServer
- Software Application
 - 3-GIS Network Express





Data Collectors

- Consumer grade smart phones and tablets
 - iPad and iPhone
 - Android devices
- Cost = \$400 - \$800
- Feature rich, easy to use
- Plethora of developers and supporting services
- Durability? But easy to replace



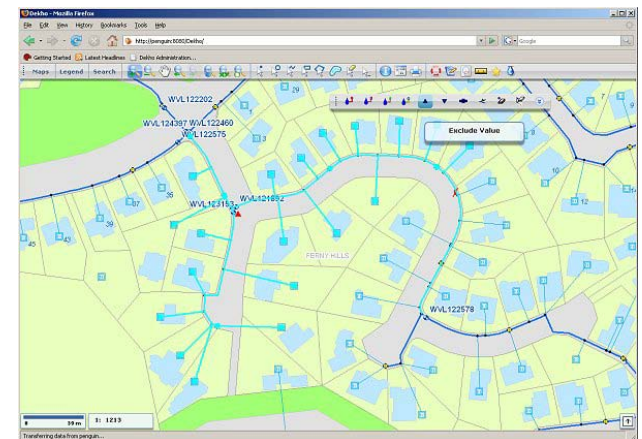
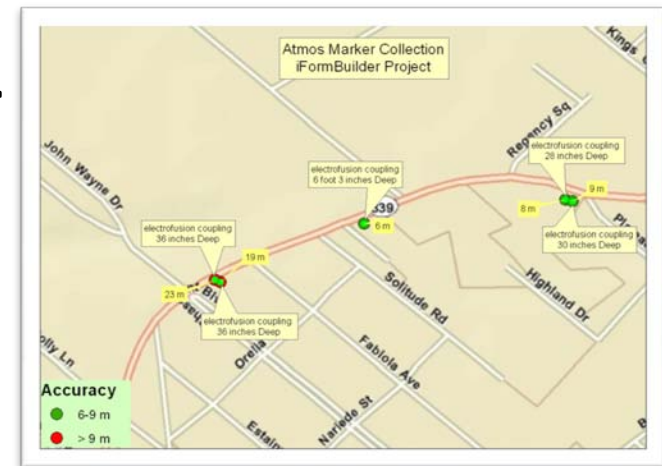
Cloud Computing

- Hosts exposed map services and provides access to the GIS
- Outside the firewall
- Security
 - Allows controlled distribution of GIS and related data
 - Only exposes small amounts of data



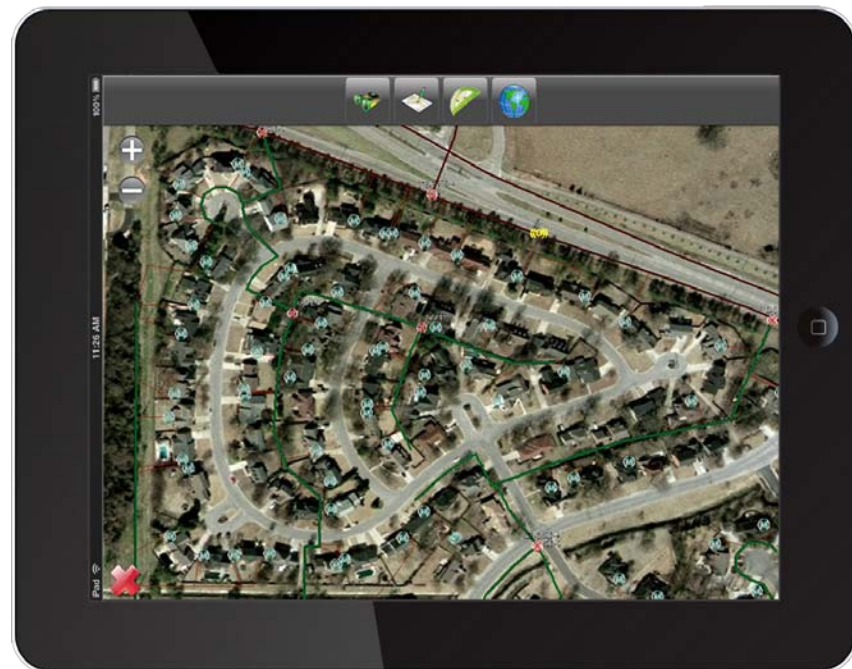
GIS

- Allows direct access to GIS for field viewing
- Allows direct GIS feature updates
- Attaching field data to GIS features facilitates future analysis and trending
- Using Esri ArcServer



Software Application

- 3-GIS Network Express
- Smart phone/tablet version of mobile data collection software



Applications

- CP readings
- Marker ball installations (RFID tags)
- HCA field data capture
- One-call tickets and excavation damage monitoring
- New service installations

Gathering Line Applications

- New installations
- Leak surveys
- Locating and visualization
- Valve inspections

Benefits

- Low cost electronic field data capture hardware
- Map-based viewing improves data quality and ease of use
- Direct GIS data integration eliminates back office processing
- Creates combined data sets
- Enhances data security
- Avoids traditional IT concerns
- Uses consumer grade devices

What next?

For more information

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