Application of GIS Enabled Address Management Systems

Presented by: Anne Skinner

July 9, 2003
• What is it?
• Why is it here?
• How does GIS uniquely enhance the solution?
• How does it work
• Case study example
What is Address Management?

- Address management is the science of managing change as it affects all components of a unique address.
- Addresses have been traditionally limited to meeting the specific requirements of individual projects, programs, and user communities.
- Managing addresses in the traditional GIS context has been minimized by viewing the address as an attribute of another entity such as a road network.
Many corporations (with massive disparate databases) have reached their limits with what they can do using traditional approaches to locating customers and infrastructure assets, and are now:

1. Driven by business needs to capitalize on cross selling and up-selling opportunities in existing client bases

2. Pressured to recognize customer buying patterns across departments, and customize marketing programs accordingly (identify the high value customer, householding etc)
3. Directed by a movement toward “customer centric” focus, rather than “product centric” strategy, requiring:
   - a deeper understanding of individual customers
   - Enhancement and understanding of the total experience that the customer has with the company
4. Developing a strategic focus to produce a “consolidated customer view”

- Merging customer related data from
  - Marketing / Sales
  - Finance / Invoicing
  - Customer Service

- To identify:
  - High revenue clients
  - High profit clients
  - departments, and customize marketing programs accordingly (identify the high value customer, householding etc)
Timeless Business Problems

✓ Costly duplicate mailings
✓ Inaccurate and/or multiple invoicing
✓ Excess inventory
✓ Service availability confusion
✓ Customer dissatisfaction
✓ Delays in new service and product offerings
✓ Loss of internal and external credibility
✓ Difficulty in cross selling and up-selling
Why is it here?

Traditional methods of “address management” no longer meet industry needs:

- Involves separating the name and address components, then applying string based matching algorithms to each.
- Address correction and matching problematic as addresses are compared against ‘real’ addresses stored in a reference (mail only based) database, incorporating significant limitations:
  - deficiencies in the way in which the postal data reflects the real world
  - addresses are changing substantially over time
Why is it here?

Strong dependence on customer name for matching also problematic:

- Due to the high degree of name redundancy across systems (R. Elliott, Rodney Elliott, Rod Elliott etc)
- Strong legal restraints can be applied corporately, reducing the match significantly
The solution to this problem is to link all of the various data repositories and delivery mechanisms together by address.
How does GIS enhance Address Management?

- Address Management has been expanded in response to a growing understanding of the potential to use addresses as Assets of the world we live in.
- At the center of this approach is a “Georef” reference database on steroids - the DMTI Universal Address Repository (DAR)
  - Each individual address becomes a single record that is assigned a unique ID and classified according to one of three classifications:
    - Theoretical address with interpolated position
    - Verified address with interpolated position
    - Verified address with precision position
How does GIS enhance Address Management?

- Taking advantage of geographic conditions and spatial references enables:
  - Resolution of previously undetermined anomalies
  - Finer address cleansing using spatial awareness:
    - directionality
    - superficial and duplicate addresses,
    - municipal annexation/amalgamation,
    - temporal change)
  - Auto-geocodes
How does it work?

Incorporating a unique ID as the foundation, DMTI is able to use both the geographic and postal components to:

- Scrub and Standardize Address
- Correct Address
- Verify Address
- Maintain and link current and historical addressing
- Assign multi-level precision geocode
- Establish the correlation between the civic (physical) and mailing address over time

By unlocking the power of the address, locations are resolved down to their purest form, enabling an unprecedented level of correlation and matching.
Telco Address Management Solution

**Input Manager**
- Transactional or batch
- From systems
- Corrects, completes, checks integrity
- Manages historical references
- Determines “verified vs correct”
- Geocodes, assigns unique ID
- Matching rules, adds custom geo-data
- Formats as required

**Output Manager**
- EDW

**Call centre**
- IVR
- WEB
- LIST

**Client feedback loop**
- Update Frequency

**Address Data**
- Satellite Aerial photos GPS Other field collection
- Verified Municipal Address Lists

- 20,000+ sources (Municipal Utilities Customer Feedback)

**WEB LIST Update Frequency**
- Client feedback loop

**SERP other Apps Engineering Provisioning**
TELCO AMS

DAR (DMTI Address Repository):
Temporal linking, unique ID, geocode, MAF, historical reference tables, civic and CPC standards,

Support for additional CLEC systems:
- Engineering
- Sales & Marketing
- IVR etc

Assignment of propriety data:

CLEC EDW

Marketing Data

Telco Data

LSR Request to ILEC

ID #

Civic Address

CPC Standard Address
Industry Example: The LSR

When a customer requests a change from one service provider to another, a “local service request” (LSR) is initiated.

Inaccurate customer address data leads to many business problems in the process:

- Increased customer acquisition cost
- Foregone revenue (billing delayed until customer acquired)
- Increases service interval, negative impact on lead time
- Huge cost re: quality of service, damaging public relations
- “Sunk Cost Risk” - losing customer back to ILEC with no revenue generation...
• Promotes centralized data for multi departmental access
• Promotes cross selling and upselling
• Can incorporate targeted marketing info at the address level
• Three levels of address verification
• Reduce costly rejection rate for LSR’s
• Increase customer service
• Reduce mailing/marketing costs
• Facilitate consolidated invoicing
Challenges

• Offering a new solution to an old problem
• Expensive, with long sale cycle
• New to us (sales style, audience, solution!)
• What is it?
• Perceived low level of experience
• Enterprise solution with a departmental problem....
Thank you!