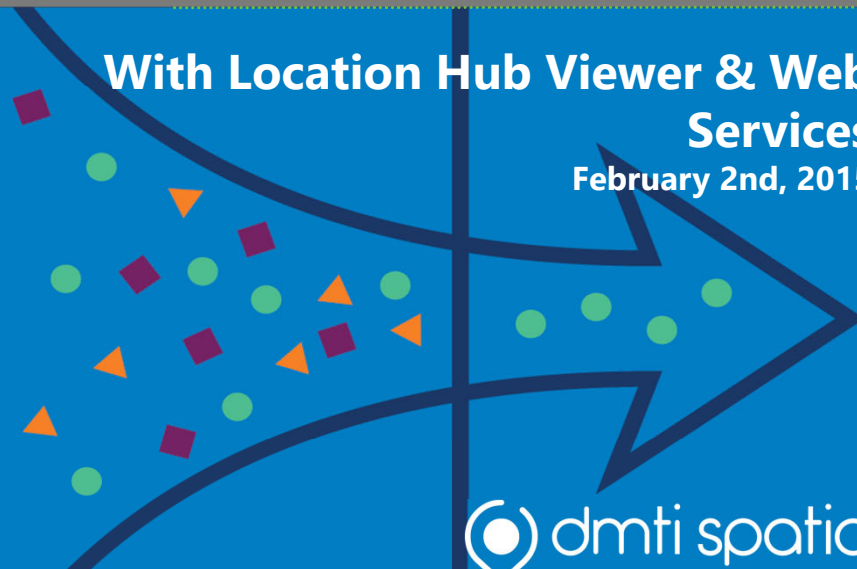




With Location Hub Viewer & Web Services

February 2nd, 2015



Agenda

Detoxify Your Database



What is Bad Data? – Why it is Important to have High Quality Address and GIS Data



What are the business problems that arise out of Bad Data? – We will show how Location Hub detoxes your Database up front and ongoing. How do you keep the data clean?



Who can benefit? Specific user profiles & use cases with steps to Detoxify your Database



Q&A from the audience General Discussion & Summary

Bad Address Data = Business Issues

Detoxify Your Database

40% of companies
suffered "losses, problems
or costs"

10-25% of B2B
databases contain
critical errors

25-30% of
your marketing
database contains
useless records

More than 25%
of data quality
problems are
caused by data
entry errors

Bad Address Data Matters

How location accuracy can help optimize **your business**



Connect to more data

85% of data can directly be associated with location



Keep records up to date

2% of records in a client file become obsolete every month. 5% of citizens change addresses annually.



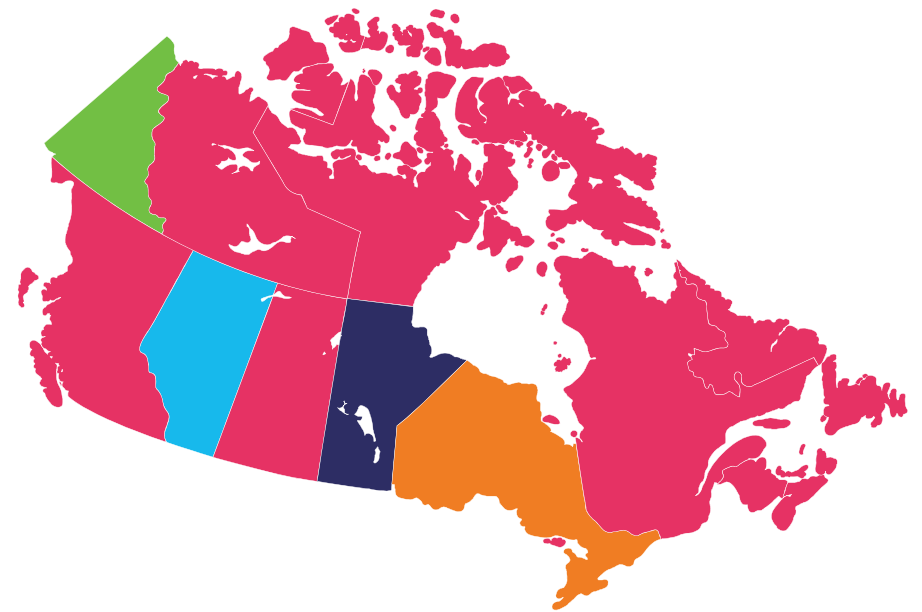
Keep track of boundary changes

- 10,000 postal codes change monthly
- 130 municipality name changes annually
- 3.3 million addresses affected



Handle multiple legal variations

Addresses can have multiple legitimate legal variations for the same address: Legal Address, Civic, PO Boxes, Address of record.





What is Bad Address Data?

- 1 | Bad Data can mean Addresses that currently no longer exist such as buildings that have been demolished
- 2 | It can be address data that is missing key components such as Municipality or street name
- 3 | It can be data that is characterized incorrectly, such as a business when it is a school, or a residence when it is actually a business
- 4 | Duplicated Address Data can make it look like you have more prospects or customers than you actually have
- 5 | Recently DMTI did an address cleanse project for a major CDN Telco, and found ~15% of the OSS/BSS data was incorrect or not matching a proper Civic Address format

Bad Address Data Examples

Detoxify **Your Address Database**

Incomplete Address Data

Missing
Street
Direction



Address

123 Main St

Street Address

Markham

City

Postal / Zip Code

Missing
Postal Code



State / Province / Region

Country

Missing
Province



Bad Address Data Examples

Detoxify Your Address Database

Incorrect Address Data

Wrong
street name
& type

Address

15 Al state Ave

Street Address

Historical
alias

Buttonville

City

State / Province / Region

H0H 0H0

Postal / Zip Code

Country

Non-existent
Postal Code

Duplicates Create Confusion

Detoxify Your Address Database

Database 1:

1750-10303 Jasper Ave Nw	Edmonton	AB	T5J 3N6
10303 Jasper Ave	Edmonton	AB	T5J 3N6
10303 Jasper Ave Nw	edmonton	AB	T5J 3N6
10303 Jasper Ave NW Suite 1400	Edmonton	AB	T5J 3N6

Database 2:

10303 Jasper Ave NW	EDMONTON	AB	T5J 3N6
2500-10303 Jasper Ave Nw	EDMONTON	AB	T5J 3N6
10303 Jasper Ave NW Suite 2500	EDMONTON	AB	T5J 3N6

Database 3:

10303 AV JASPER NO SUITE 1890	EDMONTON	AB	T5J3N6
10303 JASPER AVE NW UNIT 1400	EDMONTON	AB	T5J3N6

Database 4:

10303 JASPER AVE	EDMONTON	AB	T5J 3N6
10303 JASPER AVE NW	EDMONTON	AB	T5J 3N6
10303 JASPER AVENUE	EDMONTON	AB	T5J 3N6
2500, 10303 JASPER AVE.	EDMONTON	AB	T5J 3N6
1400, 10303 JASPER AVE	EDMONTON	AB	T5J 3N6

Database 5:

10303 Jasper Ave North West	EDMONTON	AB	T5J 3N6
10303 JASPER AVE NW Suite 2000	EDMONTON	AB	T5J 3N6
10303 JASPER AVE NW Suite 1400	EDMONTON	AB	T5J 3N6
2500-10303 Jasper Avenue	Edmonton	AB	T5J 3N6

Database 6:

10303 Jasper Ave NW Suite 2500	Edmonton	AB	T5J 3N6
#1700, 10303 Jasper Avenue	Edmonton	AB	T5J 3N6
10303 Jasper Ave NW Suite 2500	Edmonton	AB	T5J 3N6

Database 7:

10303 JASPER AVE	EDMONTON	AB	T5J3N6
10303 JASPER AVE Northwest	EDMONTON	AB	T5J3N6

Database 8:

10303 JASPER AVE NW	EDMONTON	AB	T5J3N6
---------------------	----------	----	--------

Duplicate Address Data

1 Company

8 Databases

24 different address inputs

Business Problems Arise



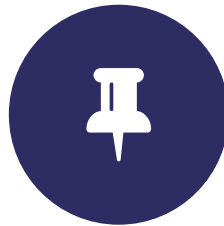
1.

85% of data has ties to geographical location, if this data isn't cleansed or maintained properly, serious errors can occur



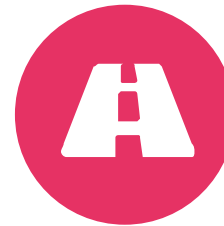
2.

Incorrect or missing address data can mean customers do not get important mail and have to call into the call centre to correct the issue decreasing ARPU



3.

Improper GIS data can make customers look serviceable when they are not, or improperly calculate distance & cost



4.

3.3 million addresses are changed every year throughout Canada, such as street names, postal code boundaries, etc

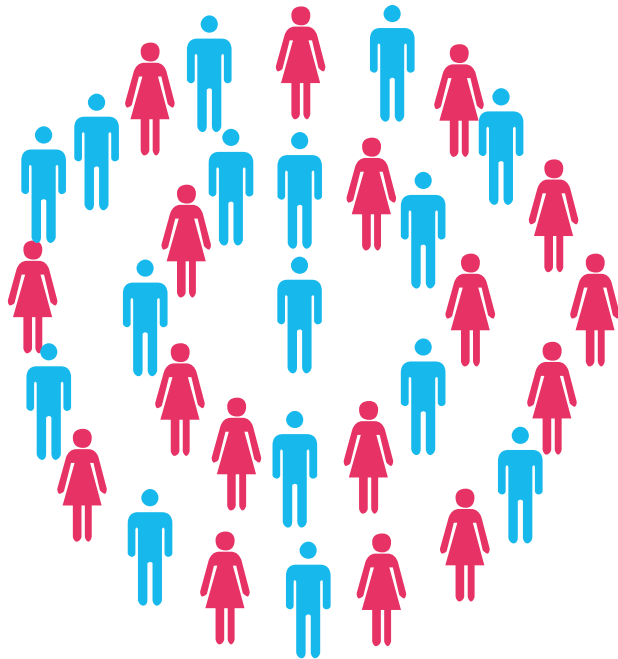


5.

Resolving address issues is imperative to a clean and accurate database

Address Data is critical for success

Detoxify Your Address Database

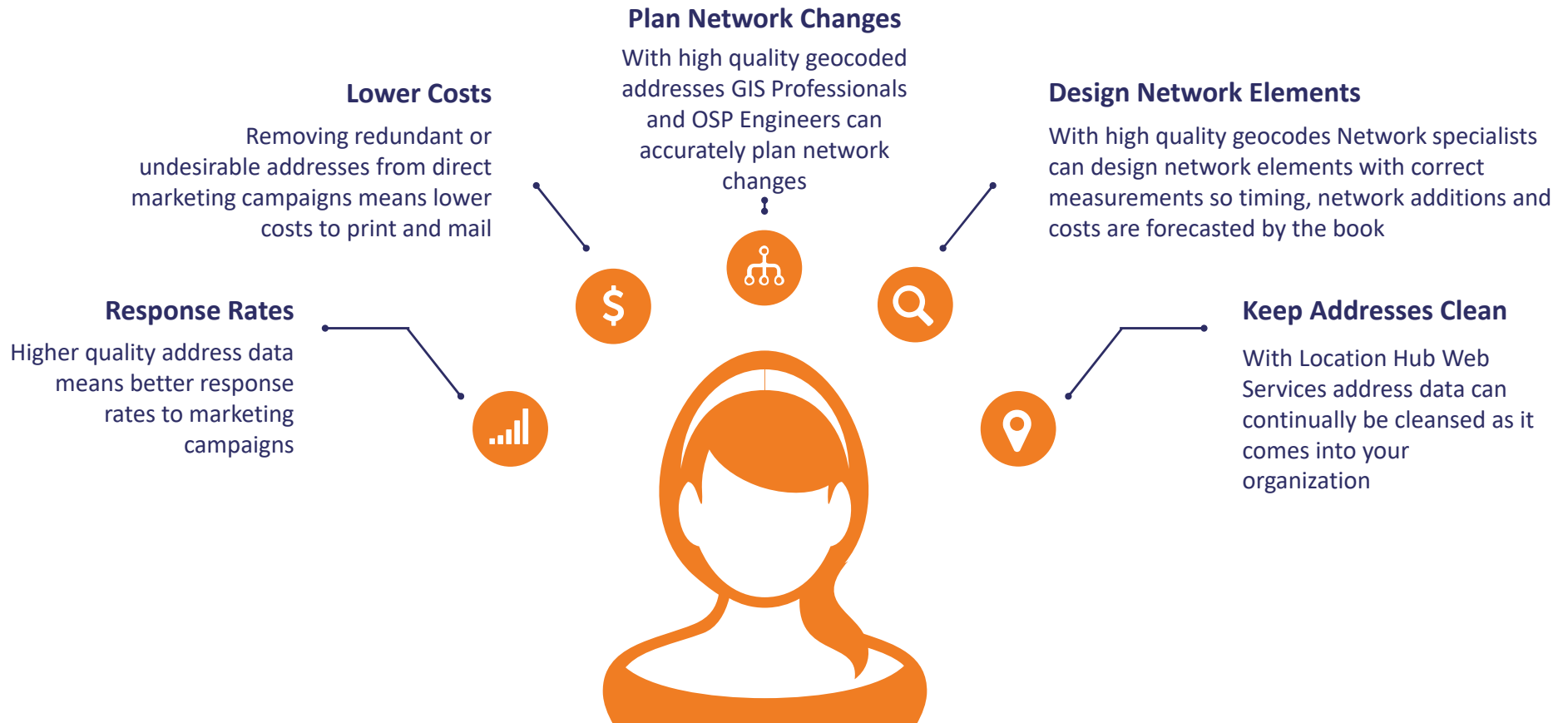


“Can I leverage my data to keep my best customers and find new ones?”

“How do I organize data to help my business make faster and better decisions?”

“How do I visualize data to help me uncover actionable insights for my business?”

The Importance of High Quality Data

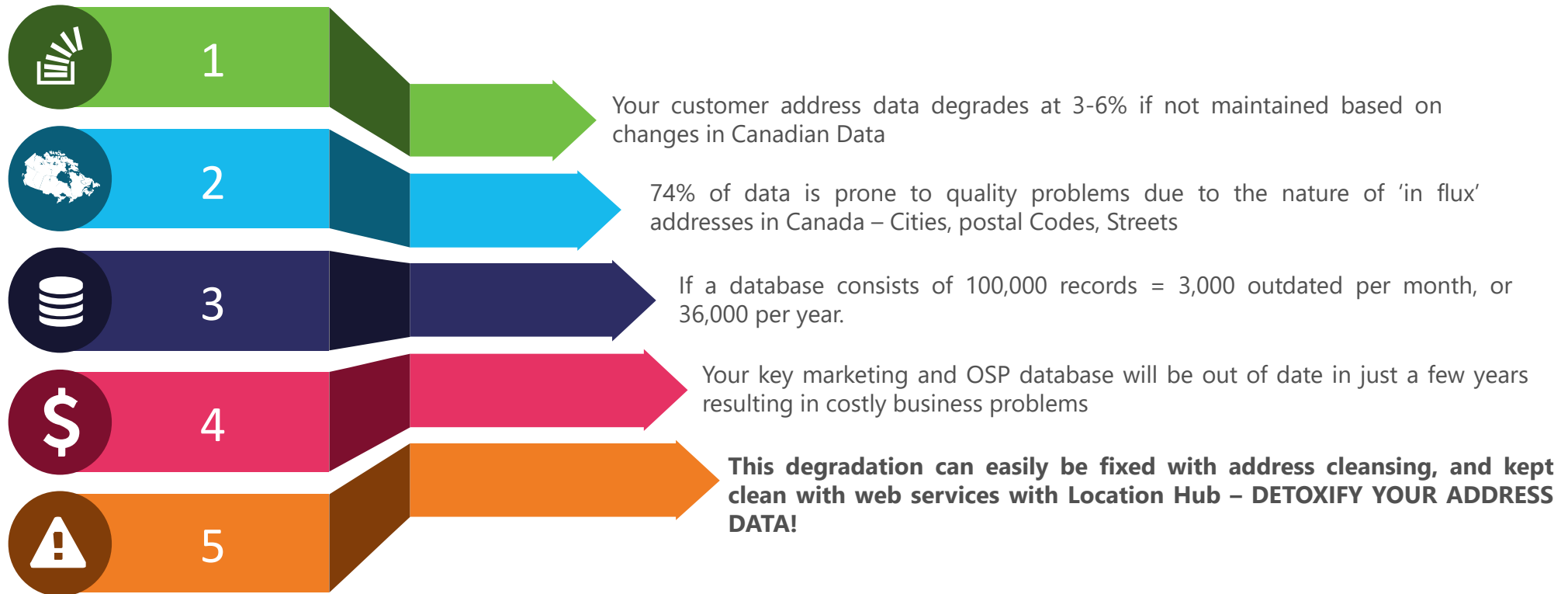


Telco User Profiles



- 1** GIS Professional
Neighbourhood clustering, Sales/Trade Area Creation, Data Analysts
- 2** Marketing Director
Direct Mail Marketing with New Demand Generation Activity, Loyalty Marketing, Increase ARPU
- 3** Business Intelligence
Market Penetration, New network Expansion, Demographics and Density, BI data & systems
- 4** Engineering
OSP Network Planning, Use and Maintain AS Built and Proposed Network in GIS – ON vs. OFF NET
- 5** Profitability
Director of Revenue Assurance, Decrease Churn, Network Costs and Profitability, increase ARPU

Degrading Address Data



Steps to Detoxify Your Data



- 1 | Run the entire Address Database through **Location Hub Viewer** to cleanse the address file to proper Civic Addresses
- 2 | This process removes duplicates, and kicks out errors, and applies a report with details and flags to correct
- 3 | The addresses have DMTI's high quality GIS coordinates added (Geocoded) in many cases at the rooftop level
- 4 | This process reduces manual effort, and improves overall accuracy
- 5 | Finally **Location Hub Services** (API) can be implemented into the Enterprise to keep addresses coming into the organization clean and correct from website, call centre, etc

DMTI National Data Statistics - Addresses

National Statistics

Classification	# Total	%
Addresses & Units for Canada	~ 15M	
Addresses & Units	15.2M	101.52%
High Precision Addresses & Units	13M	86.68%

Facts

- In total, 2,321 municipalities were updated across Canada this quarter for our software/data products.

- Download the **Top 100 Areas** that received the most updates this quarter for our software/data products

General Address Breakdown

Classification	#	%
Addresses	11,148,287	73.21%
Units	4,079,173	26.79%
Total:	15,227,460	

Classification	#	%
Urban	12,570,251	82.55%
Rural	2,657,209	17.45%
Total:	15,227,460	

Top 5 Areas - # Updates



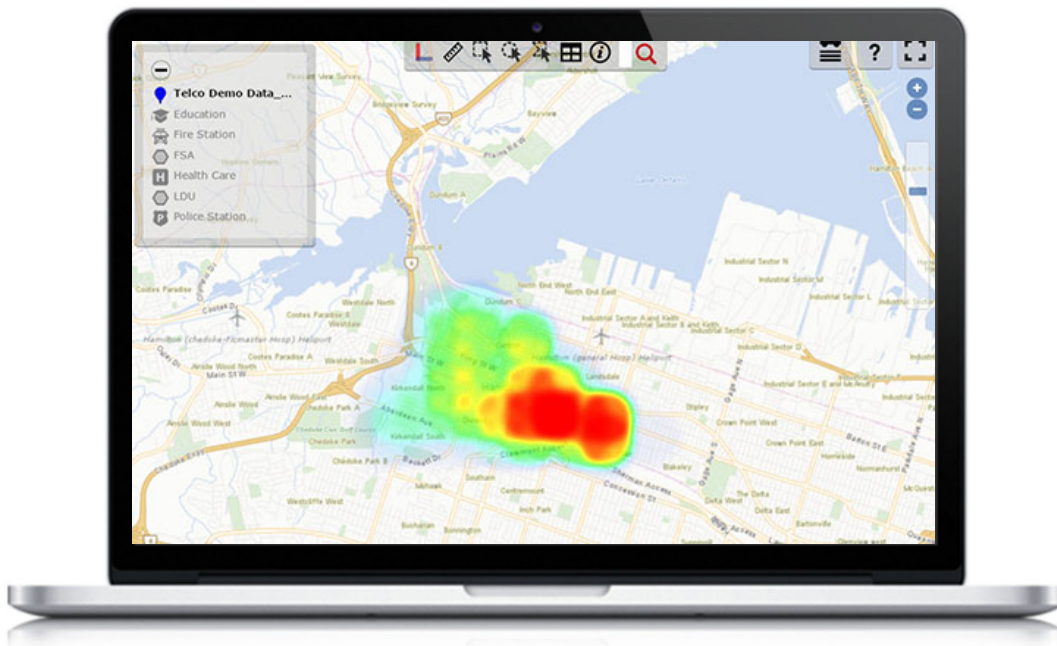
Barrie - ON - 43,737
 Oakville - ON - 54,518
 Kitchener - ON - 60,953
 Ottawa - ON - 72,592
 Toronto - ON - 496,613

Quarterly Summary

Classification	NOV 2014	JAN 2015	MAY 2015	AUG 2015	Increase in New Records
Addresses & Units	14,729,735	14,864,326	14,911,206	15,227,460	316,254
High Precision Addresses & Units	12,609,457	12,699,827	12,759,318	13,002,693	243,375
CanMap Address Points	9,529,435	9,570,672	9,612,636	9,711,248	98,612

Location Hub® Viewer

Business Intelligence You Can See



Batch Cleansing

Standardize, Geocode and append the DMTI UAID® to your Data



Add-On's & Data Bundles

Various complimentary Modules, Data Bundles and Professional Services packages



Secure On-Premise Hybrid

Discuss Hybrid On-Premise & Fully On-Premise Options for Bell (VW)

Location Hub® Viewer

Business Intelligence You Can See



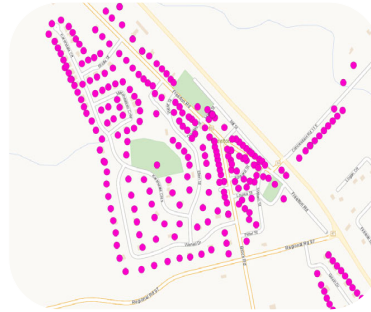
Basic Map Controls

- Pan
- Zoom
- Info
- Ruler



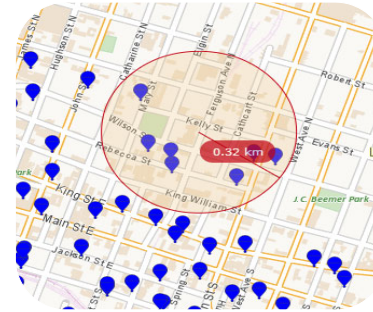
Map Types

- DMTI Base Map Tiles
- Heat Maps



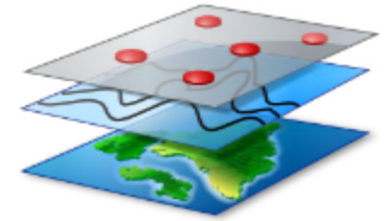
Display Data on a Map

- Upload point (address) and polygon files
- Use Address Suggest to find an address and display on the map
- Access to DMTI POI and Postal Code boundary data to provide additional context



Interactivity

- Select rectangular or circular area on a map
- View selected points in a table
- Filter results on table
- Export table to file
- View data as thematic coloured points
- Save last view



Layer Control

- View multiple files at once
- Control Display Order

Location Hub® Viewer

Business Intelligence You Can See



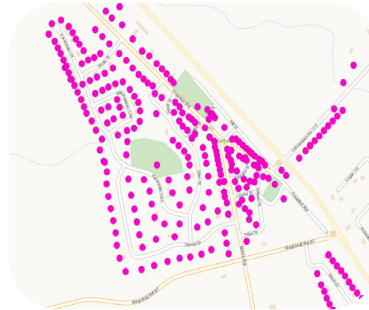
Basic Map Controls

- Pan
- Zoom
- Info
- Ruler



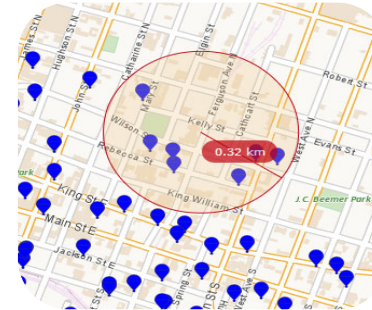
Map Types

- DMTI Base Map Tiles
- Heat Maps



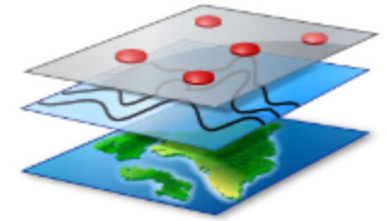
Display Data on a Map

- Upload point (address) and polygon files
- Use Address Suggest to find an address and display on the map
- Access to DMTI POI and Postal Code boundary data to provide additional context



Interactivity

- Select rectangular or circular area on a map
- View selected points in a table
- Filter results on table
- Export table to file
- View data as thematic coloured points
- Save last view



Layer Control

- View multiple files at once
- Control Display Order

A top-down photograph of two people sitting at a light-colored wooden table, each using a silver laptop. Their hands are visible on the keyboards and trackpads. To the left of the first laptop is a green mug. To the right of the second laptop is a smartphone connected by a black cable. The background is a plain white wall.

DEMO – DETOX Your Database

Cleanse your Addresses, and apply high quality Geocodes to your existing databases and GIS systems – Use Cases Explored

#1 ADDRESS CLEANSING AND VIEWING WITH LHV.....

#2 HIGH QUALITY GEOCODES WITH NETWORK SERVICEABILITY BUFFER ZONES - AN OSP ENGINEERING EXERCISE EVERY TELCO NEEDS TO GO THROUGH....

Case Study : Address Cleansing

Detoxify **Your Address Database**

Leading Provider of Internet, 4G and Telecom Services In Canada –

1. Over 1 million Addresses Cleansed
2. Location Hub found ~15% Not matching known Civic Addresses
3. These were Geocoded with LH and UAID was added
4. The unrecognized addresses were then put through a manual process to resolve, and True Serviceability estimates, measurements, and costs could be calculated
5. The Call Centre and Billing Systems (OSS/BSS) were updated with the recognized and corrected addresses
6. Location Hub Web Services implemented between Call Centre, OSP Network Software, OSS/BSS and GIS Address Databases for ongoing accuracy assurance



Summary: Bad Address Data is Unacceptable
