
Future Directions of Spatial Technology

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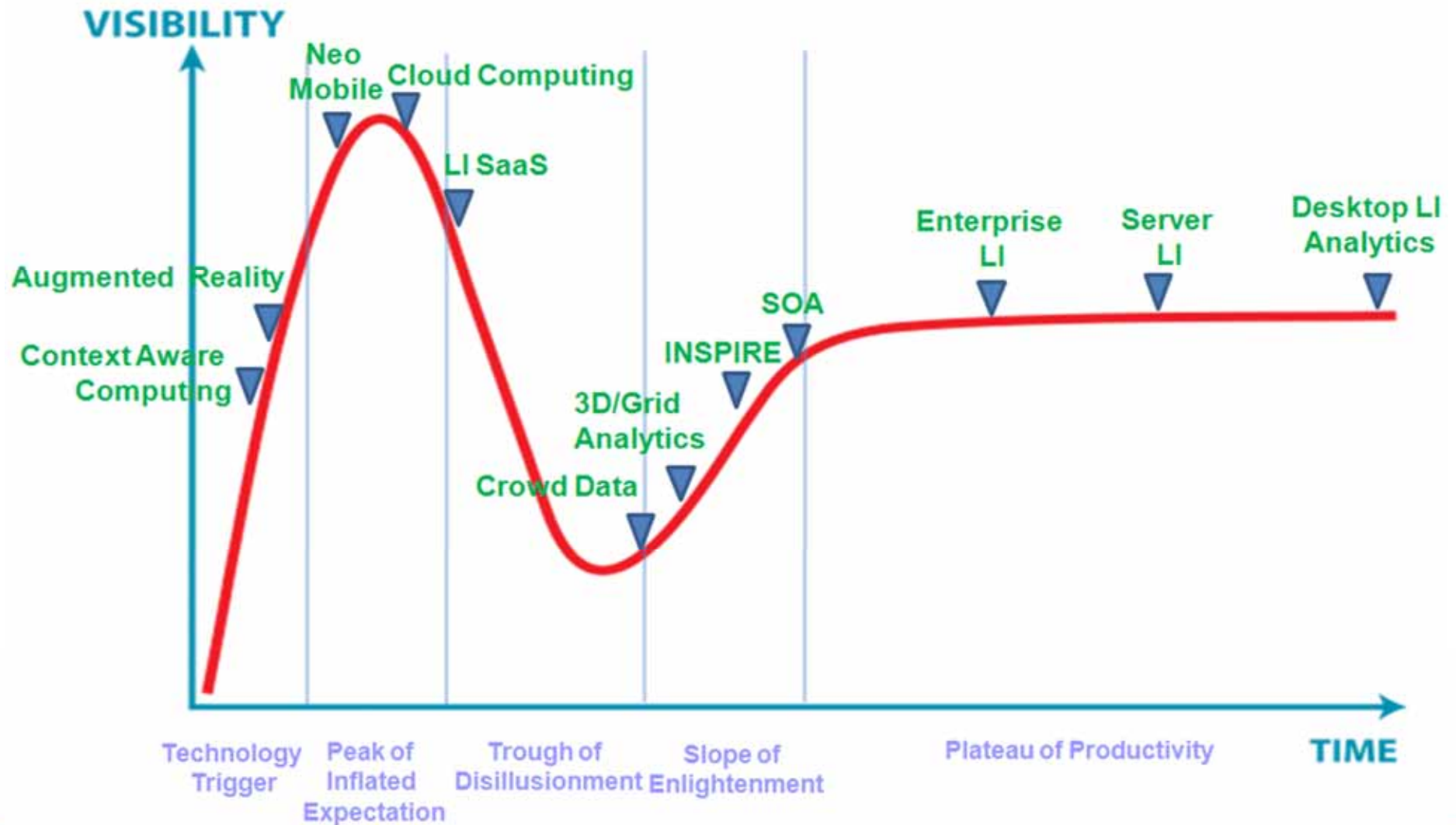
Agenda

- Introduction
- The Cloud – As a Service?
- Integration – With what and how?
- Data Proliferation – How do we handle the massive volumes of data?
- Data Quality – Do we really need the human touch?
- Open and Crowd Sourced Data – Useful or dangerous?
- Questions – Hopefully!

Introduction

http://www.youtube.com/watch?v=kzvv3q4S_a4

Introduction



- Cloud Definition

According to the ever reliable Wikipedia:

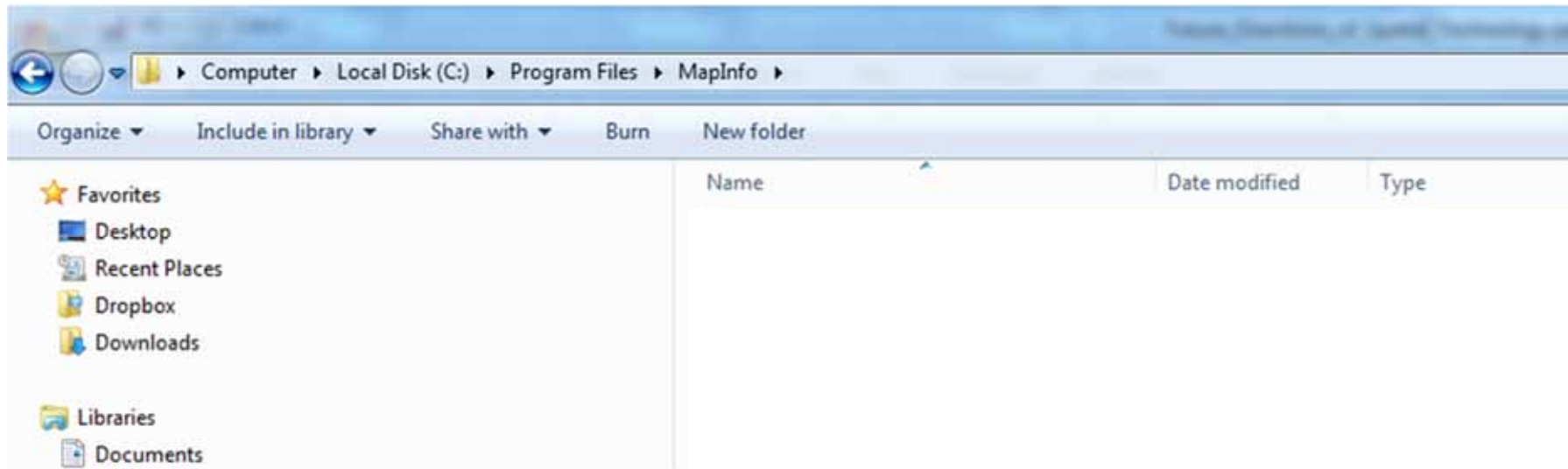
“...Cloud computing refers to the logical computational resources like software and data accessible via a computer network rather than from a local computer...”

The Cloud

- What are the As a Services?
- What is the Spatial Industry doing with the cloud and what does this mean for the GIS end user?



The Cloud



Recently Selected Addresses

Find My Nearest [Clear Results](#)

Your nearest 10 search results for 'ORANGE 2800' for 'Consumer' are shown below

- 02 6362 1899 THE RURAL CENTRE (5.4 kilometres)
154 LORD'S PLACE, ORANGE, 2800 PSE Y
- 02 6362 0681 CENTRAL WEST MOWERS & HEAT (5.6 kilometres)
121 ENDSLEIGH AVE, ORANGE, 2800 PSE N
- 02 63423222 COWRA OUTDOOR POWER EQUIP (72.5 kilometres)
78 REDFERN STREET, COWRA, 2794 PSE Y
- 02 4331 1061 ADAM BREEDER

Map Legend

- Consumer
- Crown
- Gardena
- Husqvarna
- Electric
- Petrol
- All Dealers
- AllHDealers

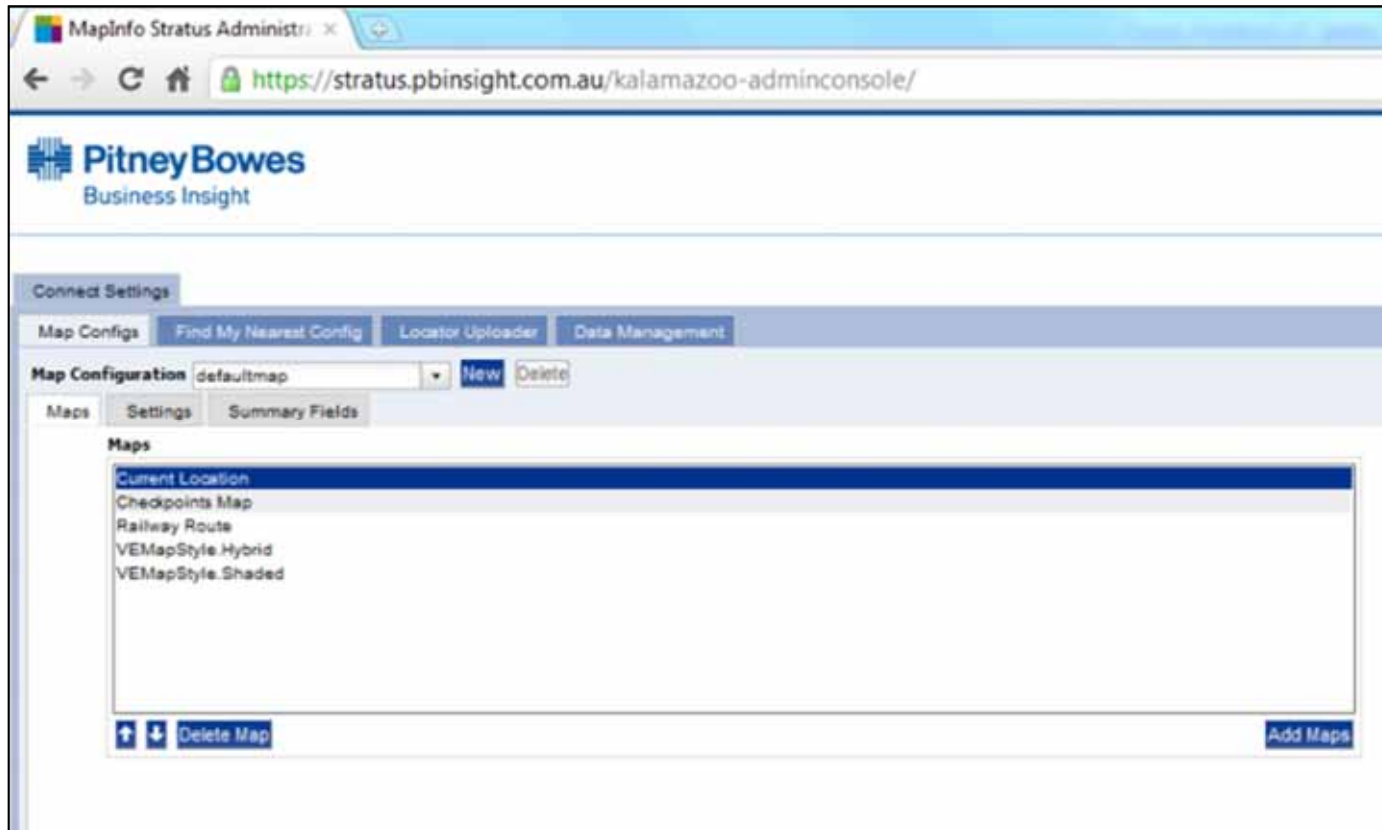
AllHDealers

02 6869 1003 COLIN MCINTYRE MOWER REPAIRS
JACKSON STREET, PEAK HILL, 2869 PSE N

Suburb PEAK HILL
service_profile Y
Srv_Prod_Sold_Elsewhere N
State NSW
Postcode 2869
husqvarna N
Phone 02 6869 1003
consumer Y
BaseDescription JACKSON STREET, PEAK HILL, 2869
gardena N
Email colmacmowers@ozonline.com.au
pumps N
Fax 02 6869 1003
crown N
petrol N
electric N
KeyVal 14204040



a better approach



 TonkinTile.TAB	4/05/2011 9:50 AM	MapInfo Table	1 KB
 TonkinTile.xml	4/05/2011 9:50 AM	XML Document	1 KB
 TonkinTileGDA.TAB	4/05/2011 9:50 AM	MapInfo Table	1 KB
 TonkinTileGDA.xml	4/05/2011 9:50 AM	XML Document	1 KB

C:\Users\Morgan Ellingham\Desktop\Desktop\Aerometrex\TonkinTile.xml - Windows Internet Explorer

C:\Users\Morgan Ellingham\Desktop\Desktop\Aerometrex\TonkinTile.xml

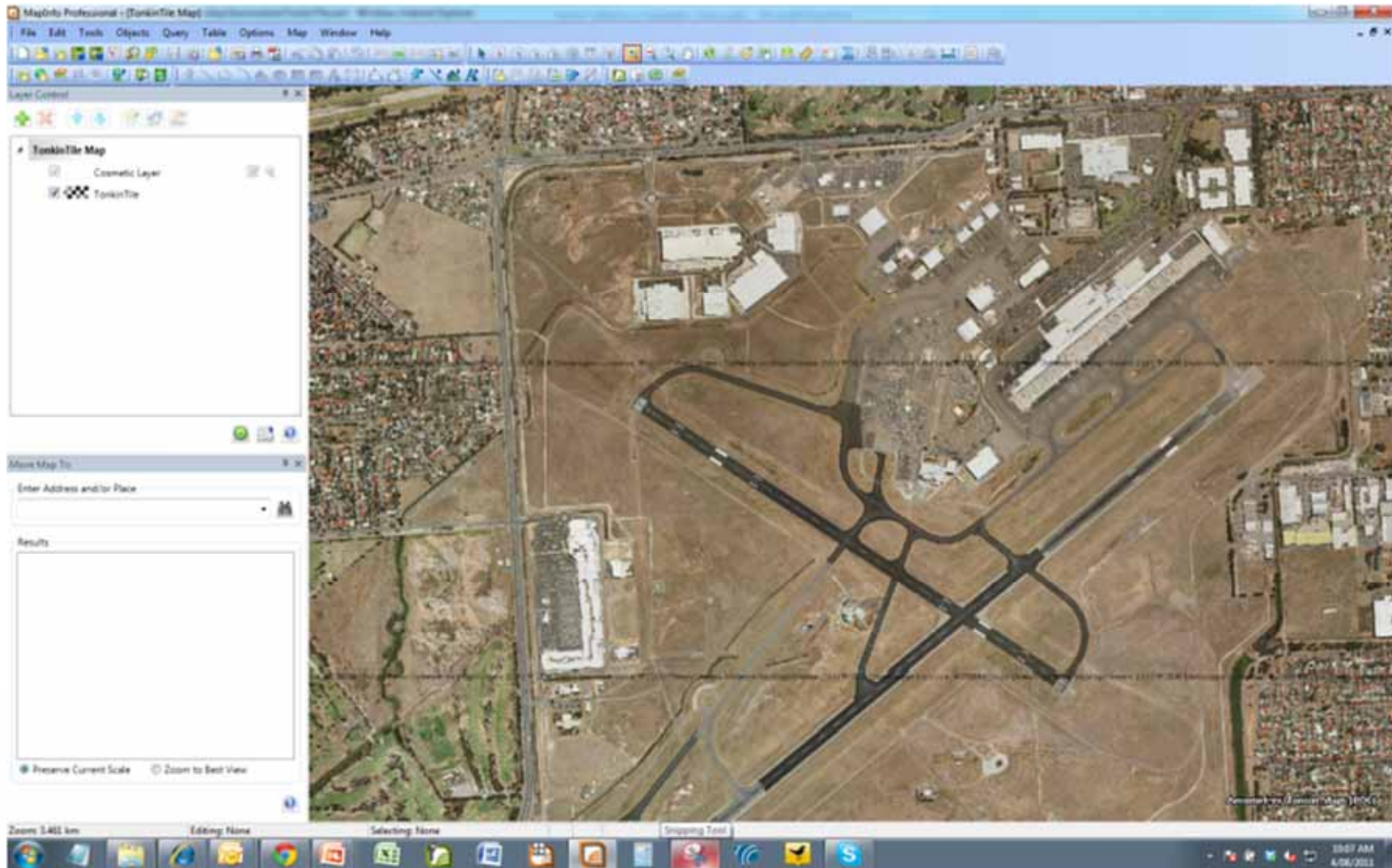
File Edit View Favorites Tools Help

★ Favorites | ★ Suggested Sites | Web Slice Gallery

C:\Users\Morgan Ellingham\Desktop\Desktop\A...

```
<?xml version="1.0" encoding="utf-8" ?>
- <TileServerInfo Type="LevelRowColumn">
  <Url>http://tcexp01.internal.tonkin.com.au/Tonkin/TileServer/WorldOverlay/{LEVEL}/{ROW};{COL}/tile.png</Url>
  <MaxLevel>22</MaxLevel>
  <TileSize Height="256" />
  <Timeouts ReadTimeout="60" RequestTimeout="90" />
  <AttributionText Font="Font ("Calibri",257,10,16777215,0)">Aerometrex/Tonkin Maps (POC)</AttributionText>
</TileServerInfo>
```

The Cloud



- Integration Definition

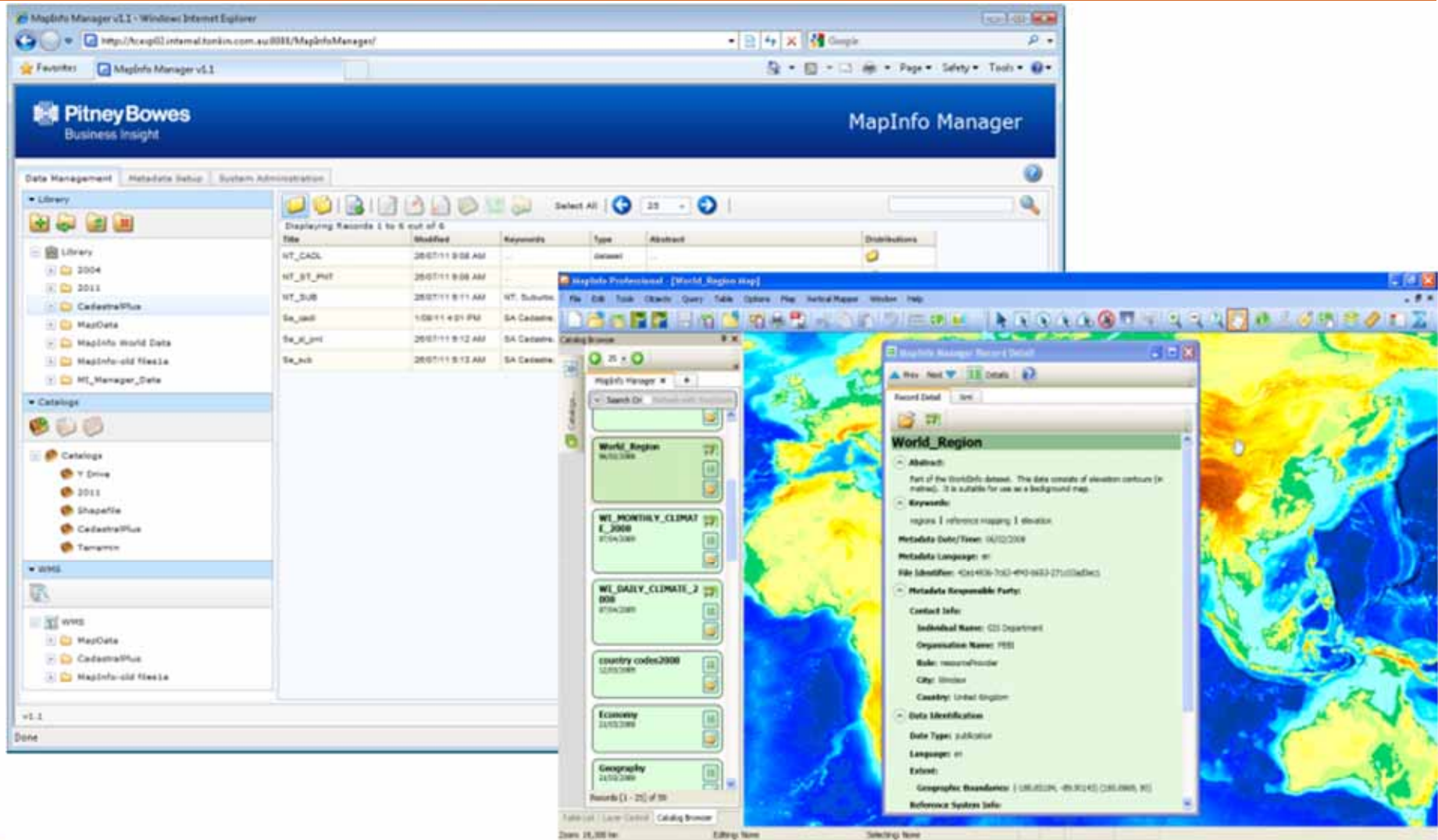
According to the ever reliable Wikipedia:

“...integration is the process of linking together different computing systems and software applications physically or functionally, to act as a coordinated whole...”

Integration

- Link Integration
- Database Integration
- System Integration
- Full “True” Integration

Integration



The screenshot displays the MapInfo Manager v1.1 interface, which is used for managing geospatial data. The main window shows a library of data sources and a table of records. A catalog browser window is open, showing a list of datasets including 'World_Region', 'WI_MONTHLY_CLIMATE_E_2000', 'WI_DAILY_CLIMATE_2000', 'country codes2000', 'Economy', and 'Geography'. A metadata window for 'World_Region' is also visible, providing details about the dataset's abstract, keywords, metadata date, and contact information.

File	DB	Table	Abstract	Keywords	Type	Abstract	Distributions
WT_CADL							
WT_ST_PNT							
WT_SUB				WT_Suburbs			
Sa_unk				SA Cadastre			
Sa_unk1				SA Cadastre			
Sa_unk				SA Cadastre			

World_Region
 9/15/2006

WI_MONTHLY_CLIMATE_E_2000
 8/19/2006

WI_DAILY_CLIMATE_2000
 8/19/2006

country codes2000
 12/05/2006

Economy
 2/1/03/2006

Geography
 2/1/03/2006

Records (1 - 25) of 30

World_Region
 Record Detail

Abstract:
 Part of the WorldInfo dataset. This data consists of elevation contours (in meters). It is suitable for use as a background map.

Keywords:
 regions | reference mapping | elevation

Metadata Date/Time: 06/02/2006
Metadata Language: en
File Identifier: 43a493a-7d3-49d-9d32-271c01ad6fca

Metadata Responsible Party:

Contact Info:
Individual Name: GIS Department
Organization Name: PDS
Role: resourceProvider
City: Simsbury
Country: United Kingdom

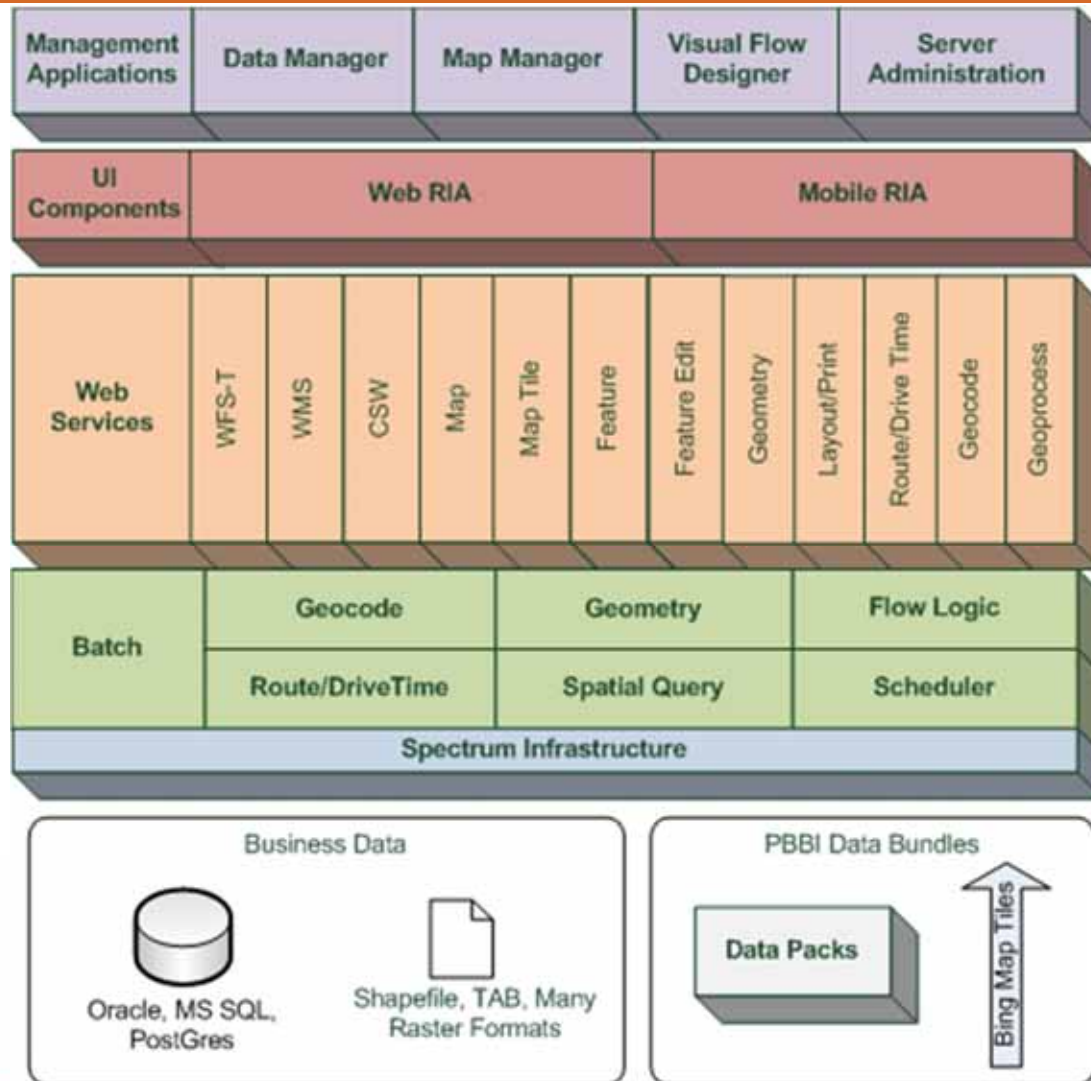
Data Identification:
Date Type: publication
Language: en
Extent:
Geographic Bounding Box: 138.051294, -89.302443, 286.6965, 90
Reference System Info:

- Data Proliferation

According to the ever reliable Wikipedia:

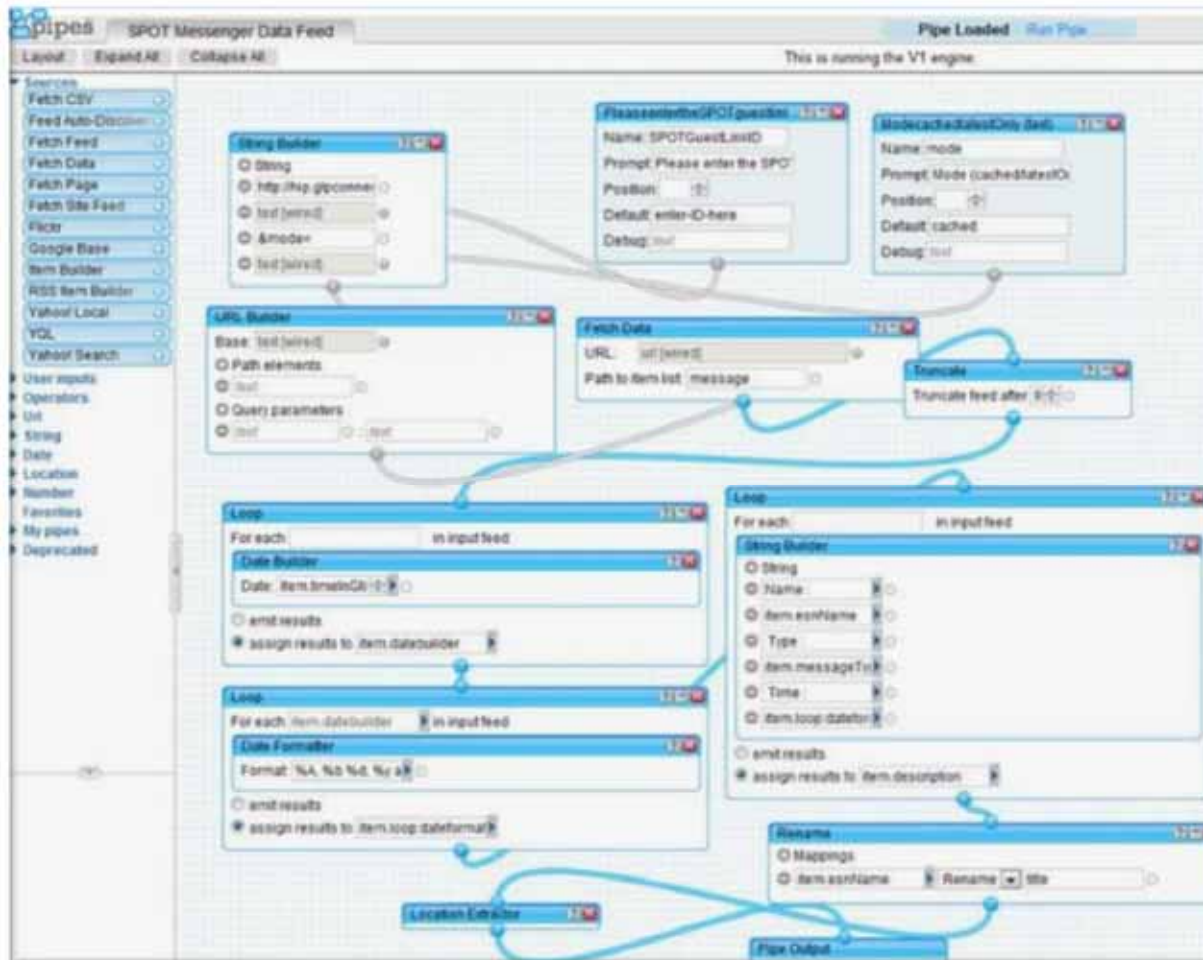
“...Data proliferation refers to the prodigious amount of data, structured and unstructured, that businesses and governments continue to generate at an unprecedented rate and the usability problems that result from attempting to store and manage that data...”

Data Proliferation



Data Proliferation

- Yahoo Pipes



- Data Quality

According to the ever reliable Wikipedia:

“...The state of completeness, validity, consistency, timeliness and accuracy that makes data appropriate for a specific use...”

Data Quality

Bad Data behaves like a virus

Starts with one record....

.... It spreads to the other databases



Data Quality

Bad Data behaves like a virus

Starts with one record....

.... It spreads to the other databases



Data Quality

Matching Records

Incorrect addresses

Non Standard formats

Name	Address	City	State	Zip	Phone	Email
Bob Williams	36 Jones Avenue	Newton	NSW	2042	02 5555 0000	bob.williams@yahoo.com
Robert Williams	36 Jones Av.		New South Wales	2042	55550000	
Burkes, Mike and Ilda	38 Jones av.	Nweton	N.S.W	2042	612-5322-9550	mburkes@gmail.com
Jason Bourne, Bourne & Cie.	76 King st	Newton	nsw		+612-5360-5480	61255241329
...

Multiple Names

Mixed business and contact names

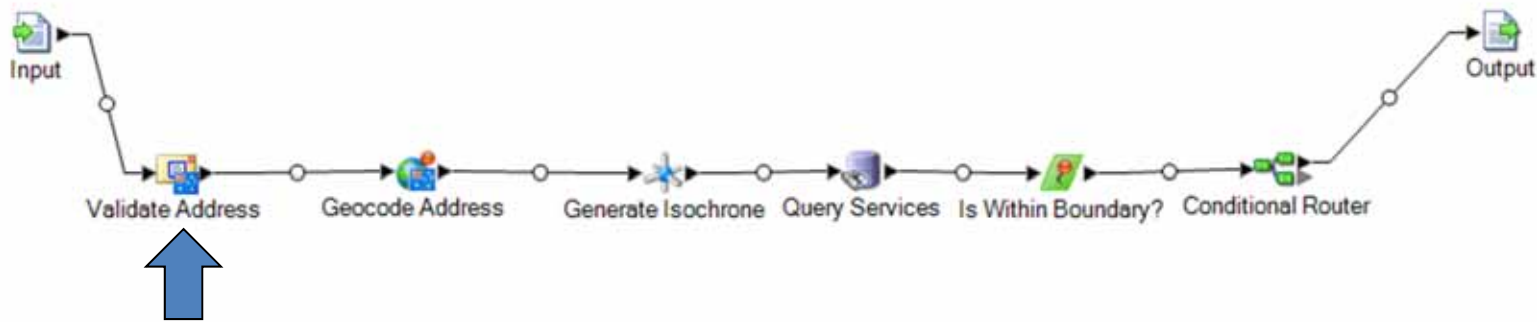
Typos

Mis-fielded data

Missing Data



Data Quality



Point		Point 2				
AddressLine1	AddressLine2	AddressLine1	City	StateProvince	PostalCode	DPID
RMB 4474A	NUMURKAH VIC 3636	RMB 4474A	NUMURKAH	VIC	3636	42638010
17 BELL ST	BORLUNG VIC 3518	17 BELL ST	BORUNG	VIC	3518	53321110
5 WARNER ST	PORT DOUGLAS QLD	5 WARNER ST	PORT DOUGLAS	QLD	4877	86389410
3 RAYMOND RD	VALLEY VIEW SA 5253	3 RAYMOND RD	RIVERGLADES	SA	5253	32681210
97 EWEN CHARLESONS..	CHURCHILL VIC 3364	97 EWEN CHARLESONS..	ALLEDALE	VIC	3364	40001310
29 TENAMBIT ST	EAST MAITLAND NSW 2323	29 TENAMBIT ST	EAST MAITLAND	NSW	2323	56902400
GPO BOX 398	CHILDERS QLD 4660	GPO BOX 398	CHILDERS	QLD	4660	56233200
7 DULKIPA CL	SURFSIDE NSW	7 DULKIPA CL	CLIFDCINE	NSW	2570	42702110
537 TERRACE RD	FREEMANS REACH VIC 3745					

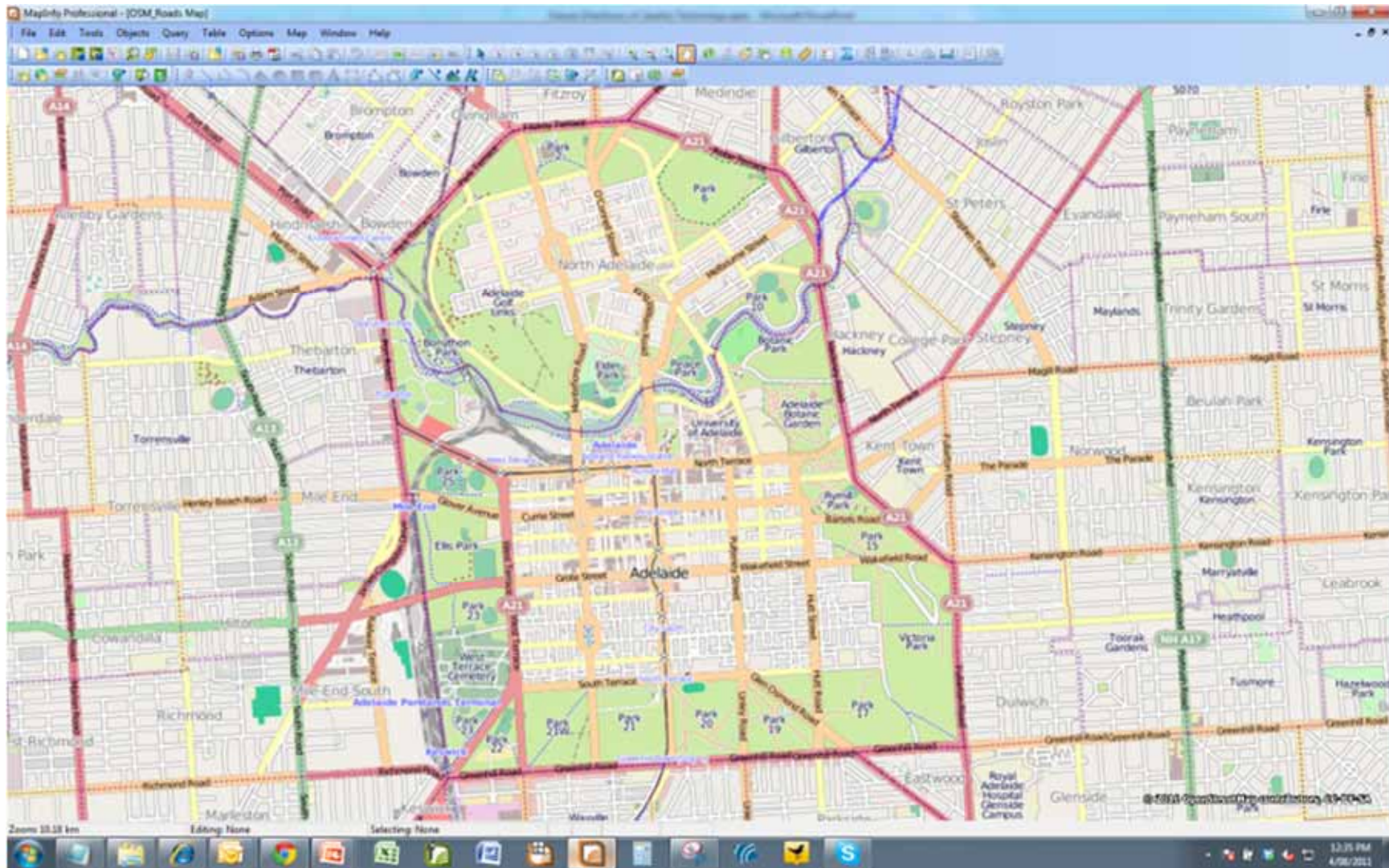
Open and Crowd Sourced Data

- Crowd Sourced definition

According to the ever reliable Wikipedia:

“...Crowdsourcing is the act of outsourcing tasks, traditionally performed by an employee or contractor, to an undefined, large group of people or community (a "crowd"), through an open call...”

Open and Crowd Sourced Data



Open and Crowd Sourced Data

<http://vimeo.com/22644160>

<http://readwriteworld.cloudapp.net/>

Conclusion

Morgan's Despotic View of the Future

- The all consuming Cloud
- Application soup
- You wont find data, the data will find you
- Super-data
- Joe Citizen – GIS Data Officer

Questions?

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a better approach

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