# VanMap Integration at the City of Vancouver

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#### **Presentation Objectives**

Describe GIS approach at Vancouver

Describe VanMap integration approaches

Describe existing specific integration examples

Describe future integration plans

## Vancouver has an Enterprise Implementation

Organizations acting as a whole, moving with common purpose in a defined direction to implement an application



- Implies sharing of core set of data across an organization
- More common in context of umbrella organization (local government or large utility)



# More and Better information

# More people

More easily

# The City's Objectives

# integrate data with the business process

# and $GIS_{\text{with}}$ the design process

# GIS Environment: open, interoperable and data-centric



# **Integration Business Drivers**

- Business processes cross business unit boundaries
- People often take a broad view where map and tabular views are complementary and even more powerful when integrated
  - People need to be able to visualize tabular information
  - Graphics users need to access more attributes and information from tabular systems
- Data verification and reconciliation
- Planning and analysis
- Do more with less by reducing duplication

# **Integration Approaches**

Simple one-way integration

Simple two-way integration

Complex two-way integration

VanMap is an integrating tool

## **Integration Approaches**



#### **Simple One-Way Integration**

Click on a feature in VanMap and something happens

- Single parameter is passed
- Result could be a display or an application
- Examples include
  - Off-leash dog parks
  - Public facilities
  - View cone display
  - Zoning bylaw
  - Non-market housing
  - Public art display



From a VanMap feature to bring up a static or dynamic Web page of another system

A business object from a VanMap layer is referenced to an existing Web page or application

#### **Off-Leash Dog Parks**



#### **Public Facilities**



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Kitsilano Marpole	Situated at West 16th Avenue and Ontario Street, Moun								
Mt Pleasant	Community Centre is in one of Vancouver's oldest neic								
Ray-Cam	located at the heart of the city. Its ethnically and econom residents live in a mix of single dwelling and high density								
Renfrew Riley									
Roundhouse	The recreation facility has a fitness centre, gymnasium, i								
Strathcona	courts, several multi-purpose rooms and an outdoor swir The centre is a hub of neighbourhood recreation with ext								
Sunset	programs in preschool, out of school care, fitness, art, y								
Thunderbird Trout Lake	programs. Several outreach programs are also focused l services to neighbouring schools.								
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#### **View Cone Display**



# **Zoning Bylaw**



### **Non-Market Housing**



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Membership Committee 711 Millyard Vancouver, BC

## **Public Art Display**



through the neighbourhood and created markers in the ground along the routes of these lost streams. The Kitsilano Community Centre has the information on the project. Copper map installations can be seen at Kitsilano Beach just south of the playground; Volunteer Park at Point Grey Road; at the foot of Bayswater, and at Jericho Beach approx. 100 m. west of the concession.

#### Artist Statement:

This project was the result of a long process of researching and photographing the local landscape and consultation with members of the community, Park Board and the School Board. The work consists of 16 in-ground and 4 above ground markers installed along the routes of four historical streams that once existed in Kitsilano. Each of the in-ground markers has the words LOST STREAM engraved around the outer edge. Each marker also contains engraved words on

#### Site Kitsilano Name: Address: various

Location on Site of Work:

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#### **Simple Two-Way Integration**

- Click on a feature in VanMap and something happens
- Click on a link in another application and VanMap appears
- Examples include
  - Community Web Pages
  - Community Services Web Viewer

#### **Simple Two-Way Integration: Methods**

#### Method for VanMap and CWP integration:

- The projects and construction in CWP are recorded and georeferenced with an address, an intersection or a street segment, which are common keys used in our GIS database;
- The project ID is used as a passing parameter for the two-way integration at the project level, and the query filters from CWP are applied as a tabular result as well as a filtered map layer in VanMap.

#### Method for VanMap and CSG Web Viewer integration:

- COV standard addresses are used in both systems;
- The address (civic number and std street) is a common key and a passed parameter in the system URL for the two-way integration.

# VanMap to Community Web Pages



# **Community Web Pages to VanMap**

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# VanMap to Community Services Web Viewer

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#### **Community Services Web Viewer to VanMap**

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#### **Complex Two-Way Integration**

Complete integration of two systems allowing two-way communication.

- Example: Tempest integration with VanMap
  - Tempest folio records displayable in VanMap
  - VanMap parcel records importable by Tempest

#### How the two systems communicate

#### Tempest system (desktop)

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**Key Benefits of Tempest-VanMap Integration:** 

Display Tempest folio records in map

Retrieve Tempest data from map selections

Create / Edit Tempest business objects visually

Perform spatial analysis with Tempest data

Adding perspective to Tempest data

#### Example: Mapping of Tempest folio records



#### Example: Retrieving Tempest data of map selections



#### Example: Creating a Tempest business object visually



#### Example: Editing Tempest business object visually



#### Example: Performing Spatial analysis (Theme)



#### Adding perspective / context to Tempest data

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#### **Future Integration Plans**

- 311: requirement is to
  - locate a service request
  - do a proximity search
  - show a spatial pattern and temporal trend in VanMap.
- Amanda: uses an address to open VanMap for more visual map context (e.g. from orthophotos).
- Hansen: VanMap will display data from the asset management system.

#### **Future Integration Plans: Methods**

- Maintain the application level integration using methods such as the decorated URL;
- Use a data warehousing approach: e.g. PIMS, for the data level integration;
- Move toward SOA (Service-oriented Architecture) by implementing Web services;
- Use a middleware approach for Enterprise Application Integration (EAI), such as MS BizTalk (for IMS)

## Summary

VanMap is an information integrator providing a visual map context for viewing data from a variety of sources and applications;

The EAI approach has been successfully implemented by integrating data with the business process and VanMap with other enterprise systems.

#### Public VanMap Can Be Found At

vancouver.ca/vanmap

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