

City Council Report

November 27, 2006

To: Phillip L. Nelson, City Manager

From: John M. Lamerato, Assistant City Manager/Finance and Administration
Gert Paraskevin, Information Technology Director

Subject: Report and Communication - GIS Case Study

Background:

- The Information Technology Department has been working diligently over the past 10 years developing its Geographic Information System (GIS) utilizing the most current software from ESRI.
- Attached please find several articles featuring the City of Troy and its use of a new product that allows the integration of GIS data from the ESRI platform, and the reporting tool Crystal Reports by Business Objects. Article sources:

ESRI website: http://www.esri.com/partners/alliances/business_objects/apos.pdf
(GIS software vendor)

TDWI website:

<http://www.tdwi.org/Publications/WhatWorks/display.aspx?id=8184>

(TDWI is the premier educational institute for business intelligence and data warehousing.)

CRM Today website: <http://www.crm2day.com/news/printnews.php?id=120431>

(A website dedicated to Customer Relationship Management)

- The Case Study as described in these articles are the result of hard work on the part of Alex Bellak, GIS Administrator for the City. Alex was looking for a product that would allow the easy integration of maps and other GIS data into reports to accommodate various requests. One of these requests came from the Engineering Department. They were trying to find a better way to maintain benchmark information and location data and respond to contractor requests for this data. Alex initially worked with Business Objects, but when they were unable to satisfy our needs they recommended us to a company, APOS, developing just such a product. APOS knew we had the expertise in the area of ESRI GIS that would be needed, and asked us to beta test and participate in the development of their product. As a result Alex was able to develop an efficient solution for Engineering that combines use of the **Hansen** Asset Management System, our web based **GIS** and Crystal Reports. The elegance of this solution was quickly recognized by APOS and other

organizations that now feature this case study in their publications. We have continued to work with APOS and influence the development of their product that in turn has made it easier to develop applications to meet the needs of the City of Troy.

Financial Considerations:

- As a beta test client the city was awarded a free license to the APOS product and one year free maintenance.
- Continued strong financial support for IT staff development and use of the latest technologies is a key to providing efficient solutions that help the city to better serve businesses and residences.

Legal Considerations:

- There are no legal considerations

Policy Considerations:

- Development of integrated applications contributes to City Council Goal 1: Minimize cost and increase efficiency of City government.
- The benchmark project demonstrates how the ability to easily and accurately generate reports for contractors meets City Council Goal 3: Effectively and professionally communicate internally and externally.

Options:

- There are no options connected with this report.



Case Study

City of Troy, Troy, Michigan, USA

"We were delighted to see how easy it was to implement the APOS Solutions Kit for ESRI GIS, to seamlessly serve BusinessObjects XI reports back to the ArcIMS user based on selected map features. It took very little technical knowledge of ArcIMS to add the Crystal Report functionality to the standard ESRI html map template."

...Alex Bellak, GIS Administrator, City of Troy



Tools Used: APOS Solutions Kit for ESRI GIS and Crystal Reports Server XI R2.

Background:

Troy, Michigan is the 12th largest city in Michigan by population and the 2nd largest city in the state based on total property value. The City of Troy's Geographic Information Systems (GIS) were developed in part to allow its citizens and employees to make informed decisions with timely, spatially accurate information. In their efforts to design high quality public improvements using sound engineering principles and cutting edge technology, the City of Troy was looking to fill the gap between their GIS and reporting systems.

Challenge:

The City of Troy manages over 1,600 survey benchmarks made available for the public to use as survey reference points. The engineering department receives requests from contractors and citizens of Troy to locate the benchmarks closest to a particular location. The nature of this task lends itself to a GIS application but the official survey benchmark information given to the public is manually generated from a Crystal Report. This requires the desk clerk to locate the ID's of the benchmarks in question from the GIS, write them down, then generate a Crystal Report and print the report. Often the citizen requesting the survey data will also request an aerial photo to be printed to help locate the survey benchmarks. This requires an additional step for the desk clerk to generate a printed map from the mapping application.

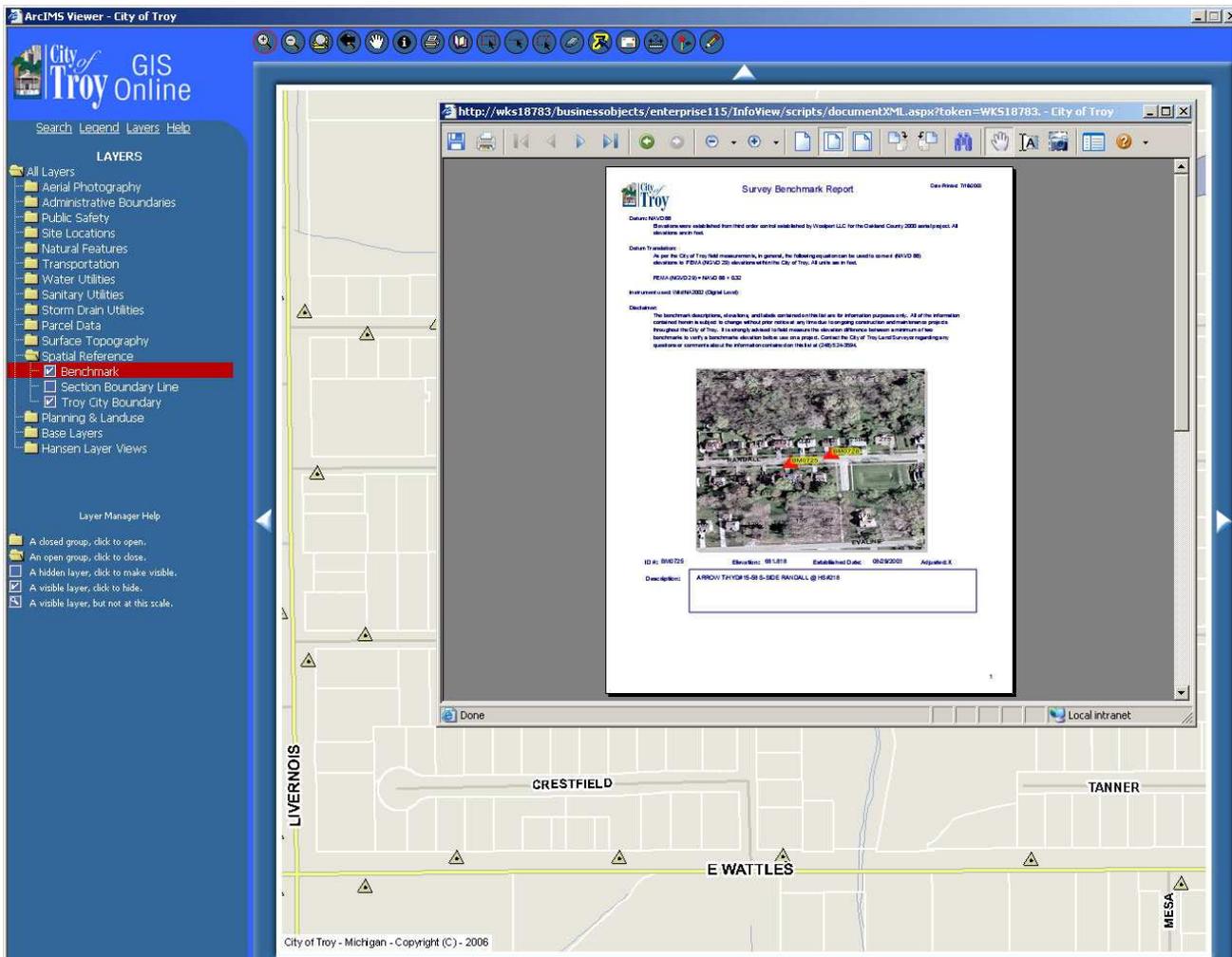
The City of Troy wanted to use Crystal Reports Server to utilize its URL reporting capabilities to send a request for a report and receive a Crystal Report back with a map image embedded from their ESRI ArcIMS server, based on a variable in the report. For example: a map zoomed in 300ft around a fire hydrant that was featured in the report.

Solution:

The APOS Solutions Kit for ESRI GIS provides a powerful bi-directional bridge between two industry-leading business intelligence solutions. It enabled the City of Troy to leverage location intelligence with their reporting analytical capabilities using ESRI ArcIMS and Crystal Reports Server XI Release 2. "It was very easy to implement and didn't require extensive custom development. The end users were very accepting of the APOS Solutions Kit as it made their job much easier," said Alex. All 400 of the City's employees can utilize the report and mapping tools without the assistance of the IT department. It also turned a multi-step process into a one step process. The City of Troy foresees utilizing the APOS Solutions Kit for ESRI GIS in many other applications throughout all the departments at the City of Troy.

Why APOS?

"APOS was wonderful to work with and demonstrated a deep understanding of the inter-workings of both the Business Objects and ESRI ArcIMS platforms. When questions arose APOS was quickly able to find the solution," states Alex.



(The City of Troy web based GIS viewer utilizes the APOS Solutions Kit)

APOS Systems Inc. is a Business Objects Technology Partner and has been a Crystal partner since 1996. APOS has acknowledged a key Business Objects XI and Crystal Enterprise strength - its open architecture - and has designed and developed a variety of add-on tools that offer customers additional capabilities within the Business Objects enterprise infrastructure.

For more information contact:

Warren Kobbeltvedt, APOS Systems Inc, APOS BI Tools
 604-864-0766 or warrenk@apos.com



Head Office: 285 Fountain Street South • Cambridge • ON • Canada • N3H 1J2
 Phone • 519.653.2767 • Fax • 519.653.8511
 Branch Office: #10 - 35537 Eagle Mountain Drive • Abbotsford • BC • Canada • V3G 2Z4
 Phone • 604.864.0766 • Toll Free • 866.629.APOS • Fax • 604.864.4291
 E.mail • apos@apos.com • Web • www.apos.com



Expand All | Collapse All

- The Journal**
- What Works**
 - Case Studies
 - Lessons
 - Q&A
 - Solution Providers
 - Archive
 - White Papers
- Ten Mistakes**
- Newsletters**
- Free White Papers**
- The Best of BI**
- Bookstore**
- Partners**
- TDWI Home**

Featured White Papers

[See Entire Library](#)

- [» Delivering Next Generation User Interfaces for Business Intelligence Using AJAX](#)
- [» How Data Profiling & Analysis Saves Companies \\$Millions](#)
- [» Dashboards and Scorecards: Linking Management Reporting to Execution](#)
- [» What Managers Need to Know about CDI](#)
- [» The SAS Enterprise Intelligence Platform: An Overview](#)

Mon. November 27, 2006

Search **Go**

[Home](#) > [Publications](#) > [What Works](#)

What Works: Volume 22, November 2006

Serving the Public More Efficiently

Commentary by Alex Bellak, GIS Administrator, City of Troy

Background

Troy is the twelfth largest city in Michigan, with 80,959 residents (2000 U.S. Census), and is the state's second largest city based on taxable property value. Troy is located in southeast Michigan, less than twenty miles north of Detroit. Ten years ago, the City of Troy began using geographic information system (GIS) technology from ESRI to allow its citizens and employees to make informed decisions with timely, geographically accurate information. The city also implemented Crystal Reports from Business Objects as a cost-effective reporting platform for information dissemination.

Challenge

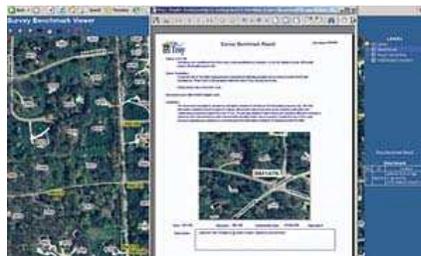
The City of Troy manages over 1,600 survey benchmarks, which are made available to the public to use as survey reference points. The engineering department receives numerous requests from contractors and the citizens of Troy to locate benchmarks on which to base new surveys. These benchmarks are the basis for accurately determining property boundaries and the location of new structures. The spatial nature of this task lends itself to a GIS application, but the official benchmark attribute information was maintained in an enterprise asset management system that did not include map features. To meet users' needs, the desk clerk would locate the identification numbers of the appropriate benchmarks from the GIS map application, write them down, and then generate a Crystal Report from the asset management system. The requestor of the survey data would often also need an aerial photo showing the actual location of the benchmark. This required the desk clerk to use the GIS to generate a printed map.

The City of Troy wanted to utilize the Internet reporting capabilities of Crystal Reports Server XI to request and receive reports that included both the appropriate aerial photo and the survey benchmark data. They also wanted to leverage the capability of their ESRI Internet Map Server (ArcIMS) application to serve maps at a scale appropriate to the benchmark data requested; for example, a map might be zoomed in to show only the benchmark and the surrounding 300 feet.

Solution

APOS Systems, a partner of both Business Objects and ESRI, recently introduced the Solution Kit for ESRI, which provides a bidirectional bridge between the two companies' latest offerings. The Solutions Kit enabled the City of Troy to leverage its investments in ESRI ArcIMS and ArcSDE GIS software as well as Crystal Reports Server XI Release 2. "It was very easy to implement and didn't require extensive custom development. The end users were very accepting of the APOS Solutions Kit, as it made their job much easier," said Alex Bellak, GIS Administrator, City of Troy.

City of Troy, MI, Survey Benchmark Report



This publicly available survey benchmark report features text from BI, and aerial photo, streets, and benchmark location from GIS.

Benefits

The desk clerk now needs only one application to provide end users with all the information they require. The end user receives a consolidated report showing the survey data and benchmark location. As an added benefit, there is no chance of mismatching map and attribute data by interacting with two completely separate application environments.

Now all 400 City of Troy employees can utilize the reporting and mapping tools without the assistance of the IT department. This heightened visibility of the benefits derived from combining the power of GIS and business reporting has led to requests for more integrated applications. The IT department is currently working on map-enabling existing reports from the enterprise asset management system to provide more information to field crews, who rely on printed work orders and service requests. The field crews will then be able to see where they need to be on a map, instead of having to read through a document to find a location.

Upcoming Events

- » TDWI World Conference, Las Vegas: Feb. 18-23
- » Webinar - Enterprise Integration Series: Practical Meta Data Management Strategies, Nov. 29
- » Upcoming TDWI Conference Dates and Locations
- » TDWI Onsite for Your Organization

Featured Publications



Get TDWI's 2006 Poster: Symbiotic Cycles of Data Profiling, Integration, and Quality



Order your copy today!

Business Objects Expands Geographic Analysis Capabilities for BusinessObjects XI Release 2

New Integration between ESRI ArcGIS(R) and Business Objects BI Platform Enables Users to "Mash Up" Business Information with Geographic Information System Maps

Tuesday, 07 November 2006

Business Objects, provider of business intelligence (BI) solutions, has announced an integration kit for ESRI ArcIMS(R) and ArcGIS Server and BusinessObjects(TM) XI Release 2. The product provides a powerful two-way bridge between these industry-leading solutions, enabling users to "mash up" business information with geographic information system maps to gain a more complete understanding of the link between relevant data and location. Developed by APOS Systems, a Business Objects Technology Partner and ESRI Authorized Business Partner, the new integration kit is generally available now.

With BusinessObjects XI Release 2 and the new BusinessObjects Integration Kit for ESRI GIS, Business Objects provides customers the ability to quickly and easily access geographic data. Customers can use the solution to create Crystal reports and perform web-based ad hoc queries with Web Intelligence that include detailed map information from ESRI ArcIMS or ESRI ArcGIS Server. The integrated solution also enables ESRI GIS maps to be embedded into Microsoft Office documents, including Microsoft Word, Excel, or PowerPoint files. Using the solution a company could combine GIS analysis with BI information on customers, facilities, and personnel to strategically balance sales territories based on where salespeople are located and how many existing and target customers are in the area. This information could be shared using a map image embedded in a Crystal report.

ESRI and Business Objects have a long-standing relationship and a shared commitment to providing the best in GIS and BI solutions to customers around the globe. Since 1997, ESRI has used Crystal Reports(R) from Business Objects as the only third-party reporting solution bundled within ESRI's ArcGIS desktop products.

"The BusinessObjects Integration Kit for ESRI GIS provides advanced self-service analytic capabilities that allow both GIS and business analysts to realize more value from their existing data," said Jack Dangermond, president of ESRI. "APOS Systems' role in developing this integration kit will enable a large business intelligence user community to more effectively analyze and visualize business data. The success of a business is ultimately tied to its ability to exploit all relevant data to make decisions, and we believe geographic data is critical to this process."

The City of Troy, Michigan has used the beta version of the Integration Kit with Crystal Reports Server XI Release 2. Their goal was to use the URL reporting capabilities of Crystal Reports to generate a report with an embedded map image from their ESRI ArcIMS server, based on a variable in the report.

"We were delighted to see how easy it was to implement the BusinessObjects Integration Kit for ESRI GIS, to seamlessly serve BusinessObjects XI Release 2 reports back to the ArcIMS user based on selected map features," said Alex Bellak, GIS administrator at City of Troy. "It took very little technical knowledge of ArcIMS to add the Crystal Reports functionality to the standard ESRI html map template."

"With this new integration between our two products, Business Objects and ESRI customers are now able to seamlessly access and interact with the valuable data

contained within ESRI ArcGIS using BusinessObjects XI Release 2," said Wyatt Mullin, vice president of global ISV sales at Business Objects. "In doing so, customers will be able to better analyze their geospatial data in order to uncover new insights and improve decision making."

© 2001-2006 [CRM Today](#). All Rights Reserved.