

NYC DoITT

Support for a new web mapping architecture

The Situation

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Colin Reilly, DOITT

The New York City Department of Information Technology and Telecommunications (DoITT) oversees the City’s use of existing and emerging technologies in government operations, and its delivery of services to the public. Within DoITT, Citywide GIS provides enterprise-wide support for geospatial applications — developing and hosting a digital map and geo-referenced data along with associated tools and applications.

The DoITT designed a new web mapping architecture, that would overlay vector information on top of cached map tiles. By sharing the tiles among applications, but allowing different overlays, the architecture could be used by multiple agencies, yet retain a consistent look and feel and be centrally maintained.

Colin Reilly is the Director of the Citywide GIS program, “Our plan for this new application and others to follow was to use a WFS and convert GML to VML/SVG over a map cache to provide the desired map experience. In selecting software that could publish geospatial data as WFS, we looked at ESRI’s ArcGIS Server among others. ArcGIS Server did not function properly on our UNIX environment so we continued our search. We came upon Geoserver as we expanded our search to open source.”

DoITT turned to Boundless for support while building their architecture around GeoServer. DoITT has the technical expertise to build the application in house but they wanted to be able to get bugs fixed and ask questions about their specific use of GeoServer. The also sought to learn about GeoWebCache and OpenLayers.

DoITT bought a maintenance agreement for OpenGeo Suite from Boundless which provided them with personalized training, access to support and other professional services for their production environment. Taken together this gave DoITT the piece of mind to develop applications on top of OpenGeo Suite components.

DoITT deployed Geoserver on top of an Oracle database with geographic data stored in SDO geometry columns. Because Geoserver works natively with Oracle, there is no need for an extra layer of software, such as ArcSDE, to mediate the connection. Geoserver provides OGC standard Web Feature Service access to the data in Oracle, returning the features as GML.



Information Technology & Telecommunications

Overview:

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Solution:

- Support and maintenance for in-house web mapping application
- Professional Services, training and support for the application production environment

Products Used:

- OpenGeoSuite
- GeoServer
- GeoWebCache
- OpenLayers

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– Colin Reilly,
Director of the Citywide GIS Program

As the new architecture was developed, DoITT formalized the design for in-house re-use, as the WebMap framework. WebMap has now been used to develop several different agency, including the core NYC CityMap and the NYC*scout for the Mayor's Office of Operations.



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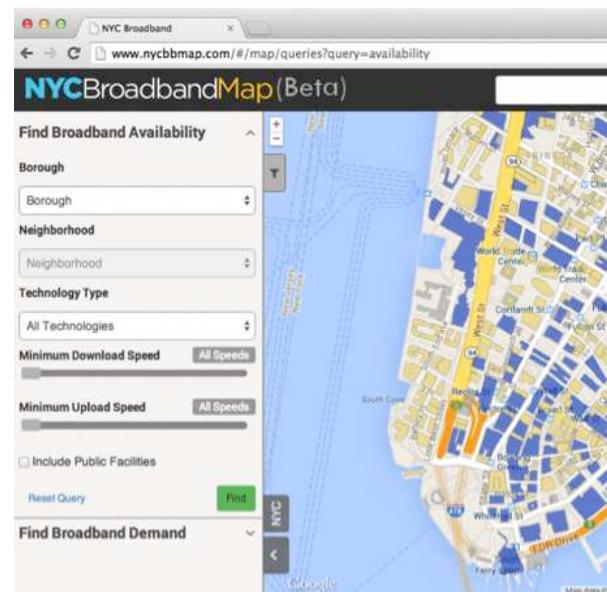
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The vector overlays pop out when you try out the sites. Map features are “live”; they become active with mouse rollovers and can provide immediate user feedback without requiring a server-side query.

Open source software solutions are catching on in New York City, and Reilly predicts that in future projects Citywide GIS may leverage it even more. “We currently use a suite of open source tools and, as new needs arise, look first to open source options before investigating traditional software. The cost advantages of open source works well within our business plan. Saving money is always well received.”

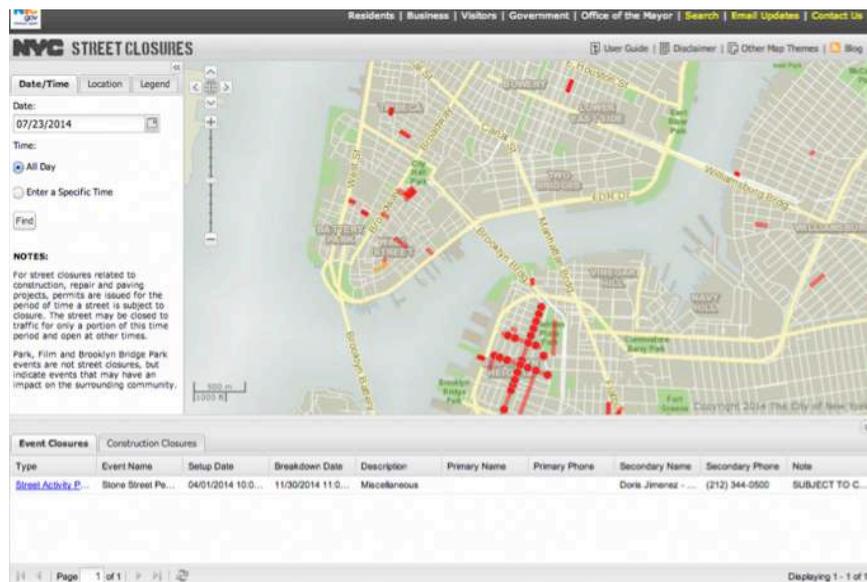
Since our relationship began, NYC DoITT has developed a number of applications for NYC government entities and the general public, all backed by Boundless commercial support. Among these applications are a street closure application, the NY City Map, the above referenced street conditions map, a 311 map and Plow NYC. These applications use a mix of open and closed source technology.

NYC DoITT choice to of using a hybrid architecture allowed them to develop their applications faster and with reduced costs. With a Boundless maintenance agreement in place NYC DoITT was able to maximize their flexibility with regards to technology choices.



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NYC Broadband Map provides an up-to-date view of the availability of broadband infrastructure in the City's commercial buildings, as well as a view of emerging demand for broadband services in the City's commercial buildings and neighborhoods.

NYC Street Closures is New York City's online map portal for displaying street closures. The application provides access to information regarding current and future street closures and allows the user to perform searches based on date and location.

NYCityMap is New York City's online map portal. The application provides a wealth of information including the locations of schools, day care centers, senior centers, libraries, hospitals, subways, and more, as well as links to websites for these facilities. This page is also a single access point to many of the numerous location-based applications on NYC.gov such as online property, building, statistics, and census information.

About Boundless

Boundless is the leader in commercially supported, open source geospatial software. From consulting to training to 24-hour support, the Boundless team is dedicated to transferring our knowledge to you to ensure your success.

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