

MassGIS

Unique benefits of using open source GIS solution

The Situation

Through its use of GeoServer, MassGIS has been able to effectively provide much of its geospatial data via OGC standards to end users since 2006.

After a competitive procurement, the agency contracted with Boundless for maintenance and support of their GeoServer deployment to extend GeoServer's functionality and deepen its support resources. With its relationship with Boundless, MassGIS has reaped the unique functionality and cost benefits that supported enterprise open source software has to offer.

Background

MassGIS is the Commonwealth of Massachusetts' Office of Geographic and Environmental Information, established by the state legislature as the official state agency assigned to the collection, storage and dissemination of geographic data. Many people and agencies depend on MassGIS and its comprehensive statewide database of spatial information.

Over the past decade MassGIS has deployed a suite of applications to support various types of online mapping initiatives, including ESRI's ArcIMS, ESRI's ArcGIS Server and GeoServer. Currently eleven state agencies, several local governments, and one federal agency have applications currently using MassGIS' various web map services (see sidebar).

The MassGIS GeoServer serves 851 data layers – including almost all the layers in its standard library – whose volume is close to a terabyte. The data layers represent many types of information, including roads, parcels, schools, aerial photos, and elevation. The MassGIS GeoServer serves these layers in many projections and output formats, and responds to more than 23,000 requests a day.

MORIS is the Massachusetts Ocean Resource Information System, an online mapping tool created by Massachusetts Office of Coastal Zone Management(CZM) and MassGIS. MORIS is used to navigate and browse data served by GeoServer.

MassGIS began using WMS software in 2004 as a data server for the Open Geospatial Consortium's (OGC) Web Map Service (WMS) to support mapping applications such as OLIVER, a general purpose viewing and download tool for geographic data. When the solution it had been using previously stopped being developed by its vendor, MassGIS looked for a WMS that was actively enhanced and supported by a community of developers. After investigating their options, they chose GeoServer.



Overview:

MassGIS contracted with Boundless for maintenance and support of their GeoServer deployment to extend GeoServer's functionality and deepen its support resources. Working with Boundless, MassGIS has reaped the unique functionality and cost benefits that supported enterprise open source software has to offer.

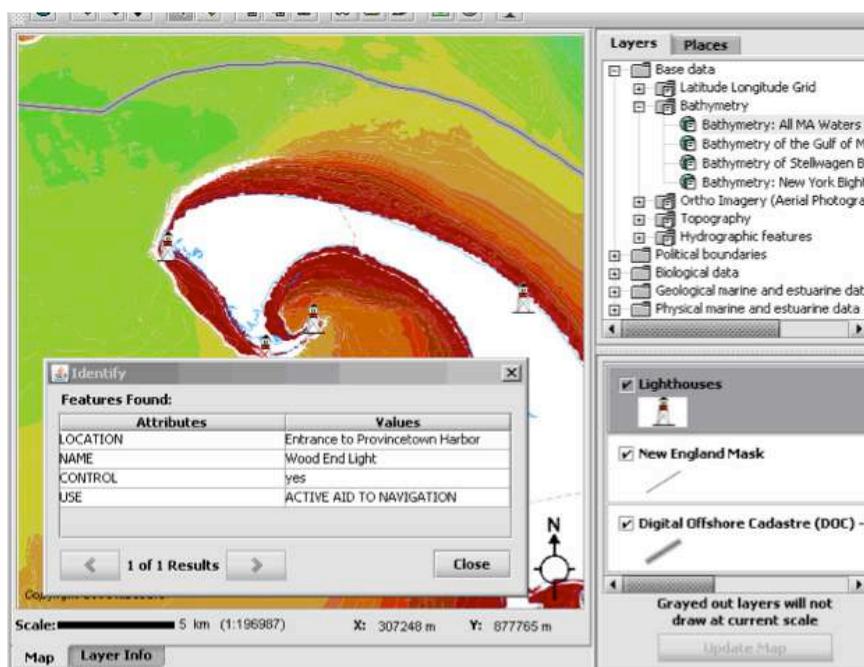
Solution:

- Support and maintenance for GeoServer deployment
- Enhanced features & cost benefits of GeoServer

Products Used:

- GeoServer

MassGIS is the Commonwealth of Massachusetts' Office of Geographic and Environmental Information, established by the state legislature as the official state agency assigned to the collection, storage and dissemination of geographic data.



“One nice aspect [of our GeoServer experience] is the open bug/improvement database JIRA. Another is that the users’ and developers’ email groups are very active and responses to questions come very quickly. In addition, bug fixes can be tested with the nightly builds so we don’t have to wait for a release to know that a bug has been correctly fixed.”

– Aleda Freeman, GIS Programmer
MassGIS

Open Source, Commercial Support

MassGIS quickly benefited from working with a mature open source project. Aleda Freeman, GIS Programmer at MassGIS reports,

“One nice aspect [of our GeoServer experience] is the open bug/improvement database JIRA. Another is that the users’ and developers’ email groups are very active and responses to questions come very quickly. In addition, bug fixes can be tested with the nightly builds so we don’t have to wait for a release to know that a bug has been correctly fixed.”

While working with GeoServer, Saul Farber (now with PeopleGIS, at that time a software developer for MassGIS) became involved in the GeoServer community and made several key code contributions.

Later, MassGIS determined that it needed GeoServer to read more types of ESRI SDE raster data layers than it was able to at the time. In the summer of 2008, MassGIS issued a request for responses from organizations interested in doing the programming work. Boundless was selected for its knowledgeable response and experienced staff.

MassGIS purchased a maintenance agreement for the OpenGeo Suite from Boundless. In addition to giving them the implementation hours needed to improve GeoServer’s SDE integration, this also gave MassGIS commercial support from the open source geospatial leader.

Freeman explains: “MassGIS has a test suite of about 85 requests that need to remain working to support existing applications. During the transition from GeoServer 1.6.5 to 1.7.6 any issues with the requests not running properly were investigated and dealt with promptly.”

“Working closely with the developers has also given me a better understanding of how GeoServer works and how it’s evolving. I can think about how we might take advantage of new functionality currently in development.”

Working with Boundless

MassGIS stores its data in Oracle and the ESRI Spatial Database Engine (SDE). In particular, all of its imagery is stored in SDE, and MassGIS had several different types of raster layers. In 2008, GeoServer (v1.6.5) only supported a few of those kinds of layers, so MassGIS issued a request for responses to extend GeoServer with the new capabilities. Later, the Massachusetts Ocean Partnership contributed additional funding to the project. By August 2009, GeoServer supported all of SDE’s raster layers and MassGIS upgraded their GeoServer to version 1.7.6.

Freeman recalls:

“The work to support all the MassGIS SDE raster types is a success – all the types now display properly. Boundless completed the work quickly and any issues that cropped up were dealt with promptly. ... Everyone has been very responsive and enthusiastic. I have been working mostly with Justin Deoliveira, Gabriel Roldan and a little with Andrea Aime. I feel that Boundless wants to make sure MassGIS’ GeoServer implementation continues to work well.”

“I think things have worked very smoothly, considering that I’m in Boston, Justin is in New York, Gabriel is in Argentina and Andrea is in Italy. Tools to manage communication have been very helpful, including the [dedicated email list], the Trac database for tasks and hours, and of course JIRA, the overall bug/enhancement database where I can vote and/or watch issues and be informed of changes.”

After development and launch MassGIS extended its maintenance agreement with Boundless to assist with their plans to make GeoServer performance improvements and further improve GeoServer’s SDE integration.

Boundless Supports organizations like MassGIS to make the most of their limited budgets. Maintenance agreements for OpenGeo Suite are a cost effective way to realize the increased functionality and lower total cost of ownership of open source geospatial software.

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.

“Working closely with the developers has also given me a better understanding of how GeoServer works and how it’s evolving. I can think about how we might take advantage of new functionality currently in development.”

– Aleda Freeman, GIS Programmer
MassGIS

