



KNOWING *WHERE* IS JUST THE START



UNTIL QUITE RECENTLY, THE BENEFITS OF GEOSPATIAL ANALYSIS TO THE BUSINESS COMMUNITY WERE ENJOYED ONLY BY THE FEW. BUT, AS PHILIP O'DOHERTY EXPLAINS, SOFTWARE AS A SERVICE (SaaS) CAN LEVERAGE ITS POWER FOR THE MANY – WITH NO STRINGS ATTACHED

Cost has been a significant barrier to the more widespread adoption of geanalytics: while server and desktop-based GIS software is effective, it is also very expensive. If geospatial data analysis wasn't mission-critical, or an industry standard, or a return on investment (ROI) was difficult to prove, then GIS software wasn't an option. And so the majority of the business world continued without it.

Changing perceptions

Perceptions of the value of maps have changed dramatically – they're no longer just about finding a route from point A to point B. The rise in consumer mapping applications such as Google Maps, combined with increasing use of location-aware smartphones, has brought mapping centre stage for both consumers and the general business community.

The explosion of location-related data has created significant interest in how it can be leveraged for commercial gain. It's not enough to know where things are – stakeholders want to know what it means, and how it can be exploited.

In order to achieve commercial advantages, organisations needed to incorporate geospatial analysis into their business analytics. But the traditional desktop- and server-based GIS were priced and delivered to suit enterprise GIS users, with the corresponding budgets and staff. Potential customers were very interested, but unwilling to make such significant investments without proven ROI. Very few were willing to make the leap.

SaaS: an inevitable step

Most sectors of the software industry follow a similar pattern: Desktop software is developed, enjoys popular success, and leads to the development of server-based software. This, in turn, enjoys market dominance, and gives rise to the development of Software as a Service (SaaS)-based versions of the software.

The development of the geospatial software market has been no different – indeed, the development of SaaS-based GIS software can almost be seen as inevitable.

Desktop- and server-based GIS software still dominate the market. But SaaS-based GIS vendors who had seen the slow acceptance of server-based GIS software didn't expect quick adoption of SaaS from within the industry. Instead, they adopted a dual aim: to serve GIS experts who were interested in SaaS; and to provide services to newly location-aware organisations in the wider business community.

For the latter market, SaaS delivery removed barriers to adoption that traditional GIS software delivery presented: it's inexpensive, doesn't involve complex IT setup, and is almost immediately available. Such a low-cost, low-commitment software "rental" model makes it easy and attractive for a customer organisation to try the software and determine its value – with no strings attached.

While SaaS-based GIS software is still in its infancy – it is so new that it seems premature to even speak of "early adopters" – it has irrevocably changed the face of the geospatial industry. By providing low-cost data mapping functionality, it has made GIS software available to a much broader – and more diverse – market.

We're all familiar with the typical customer profile of long-term, enterprise GIS users: they want full, robust GIS capabilities – and have the staff and budgets to support this. They employ highly qualified GIS experts who spend a large proportion of their time using the software. They employ SaaS to deliver other business applications like CRM and email, but they're not sure about it for GIS.

New audience

Most of us are less familiar with the profile of newcomers to geospatial analysis. They come from a wide range of industries, and have job titles as varied as Administrator, Marketing Manager, Data Analyst and CEO. They'll work with full-function GIS software if it's usable, but are often happy with the functionality provided by a user-friendly data mapping application. They're well-versed in data analytics, see GIS software as an additional analytical tool, and prize efficiency and ease of use.

One such company is Maven TM, a small Irish telemarketing services firm. While Maven



Road Safety Association's MAST Mapping tool

had come across geographic trends in its work, it didn't initially consider conducting a detailed, map-based analysis, judging it to be a time-consuming manual process.

The management team was excited about geospatial data analysis: while it already used a variety of tools to provide in-depth campaign analyses to clients, it welcomed the opportunity to add more value by factoring in location.

While a traditional GIS solution could have met Maven's analytical needs, it wouldn't have been practical. Employees often work remotely, so it was critical that the software was fully web-based. They don't have the expertise or infrastructure required to administer a complex, in-house solution; and as a small but growing company, it's essential that they kept costs low while still planning for growth. SaaS-based GIS software was an ideal fit.

Bridging the gap

Bridging the gap between GIS experts and newcomers is yet another customer group – the GIS experts who need the benefits of SaaS-based GIS. These customers may lack traditional-sized budgets or staff – either on an ongoing basis, or for project work. They're likely to need functionality that's not provided out of the box by traditional GIS software delivery, like full collaboration options, or web-based output and reporting.

One such example is Road Safety Analysis (RSA), a government agency that analyses and reports on British road casualty trends. RSA (www.roadsafetyanalysis.org) illustrate the relative safety of different localities by mapping Killed or Seriously Injured (KSI Casualties) data against residential, social and demographic data, and factoring in local traffic and population counts.

RSA had previously used desktop GIS software to map its data. While the

mapped data was fine, sharing maps was difficult: each request for information involved creating a large-scale print-out, or emailing an image.

As the UK government clearly prioritised making information widely available to local bodies and citizens, this was a problem. RSA needed an interactive, online environment to display mapped data – but with a small price tag, and the option to scale to meet growing demand.

SaaS-based GIS was the perfect fit for RSA, which now makes its data available to both local authorities and the general public via an interactive mapping tool, MAST Mapping (illustrated above).

Unique opportunity

The increased diversity in GIS software delivery methods is a boon to the geospatial community, for when valuable technology with proven results is made more widely available, everyone benefits.

Rather than focusing solely on a small percentage of the overall business market, GIS software vendors now have the opportunity to work with customers from any industry. With SaaS-based GIS as part of the equation, the geospatial market is as large as we want it to be. It's a unique chance for all of us to profit – both vendors and customers.

Philip O'Doherty is CEO of eSpatial (www.espatial.com), a leading provider of Geographic Information Systems and a pioneer in the provision of location intelligence delivered via Software-as-a-Service.