Geodata Good Enough to Use?

The Big Guys Are Interested in 1Spa

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In 2007 1Spatial, formerly known as Laser-Scan, attracts important partners. Next in line to Oracle are not only Autodesk, Google, HP, the OGC, but also Tele Atlas and Intergraph who are interested in this British geo-think-tank. 1Spatial may continue to be a specialist company with a suite of very specific products that deal with spatial data quality (based on open standards and interoperability), but suddenly the world at large is taking notice.

By: Remco Takken

The organisation that opened their doors for the 1Spatial Conference on May 2nd and 3rd; Ordnance Survey Great Britain in Southampton stands, according to Vanessa Lawrence, CE of Ordnance Survey "at the beginning of the chain of location intelligent specialists." She continued: "just like everyone else in this hall, we are aware of the fact that 'location' lies at the core of most decisions."

As early as the first lecture of the first day of the conference with the theme 'Fit For Purpose', Lawrence summarized the essence in an amazingly short sentence: "just good enough is good enough".

1Spatial CEO Mike Sanderson didn't let this bring him down. On the contrary, he made it clear that by using the thinnest possible streams of information, 'sooner or later machines will be able to talk to machines'. Oracle's David Pearson agreed with this: "computers will tell other computers what to do."

Autodesk

The presence of Autodesk-prominent Geoff Zeiss undoubtedly has a lot to do with the fact that recently 1Spatial started supporting Autodesk's FDO (Feature Data Objects) as an entrance bridge between their Radius product suite and the Open Source Community (OSGeo). Zeiss told his audience that he sees Open Source as some sort of box where all standardised and crystallised technology should be available for free.

In Southampton Zeiss addressed the 'field force', workers out in the field who are still invisible when it comes to policy making within an organisation. "With Web 2.0-technology, which most of you know through the Wikipedia on the web, it's going to be very easy to update newly acquired knowledge directly from the field. This way the 'real workers' will be heard more easily, while the organisation as a whole can profit from their knowledge."

Open Geospatial Consortium

A striking speaker at the 1Spatial event was Open Geospatial Consortium chairman and CEO David Schell. 1Spatial recently became Chair of the OGC Data Quality Working Group, so there was an obvious link. However, 1Spatial has been involved in OGC initiatives for over 10 years now. Schell spoke about the

need for the OGC, the importance of which he found of equal value as Galileo's telescope. "The OGC created a new lens, and a new scope."

Of course one needs to come up with an example to prove it. "Take climate change. A lot of models don't talk together. The stream of information is a 1000 per cent eclectic and heterogeneous. This field is more in need of integration than any other."

Schell: "Geospatial and GIS is just another form of data acquisition and it has to do with the integration of information, putting together different types of information. So what is it doing in a 'boutique-environment', owned by a few companies that are completely closed from IT mainstream?"

According to Schell, one of the most important events of 2006 was when Google came into the OGC. "What the OGC has been doing for the last 15 years, it was to make us ready for this year. The market was hiding under a rock. The traditional vendors couldn't do it. Google has the ability to harvest enough, not necessarily perfect, but enough, information to make you aware."

Schell would like to see that science would continue to build its models, but that media like Google Earth will create awareness among the masses. "How do we organize ourselves to make an absolute iron-clad statement to address both to Mr Gore and Mr Bush?"

SOA on Steroids

There were also some concerns for the near future in the geospatial world, ventilated by Schell. "There's a great deal of new technology around us, which outruns our ability to use it. There's a tendency not to look back, but it just confuses people. Think about the net centric infrastructure, it's SOA on steroids.

Then there's the Google revolution: we better integrate KML and GML. Fortunately Google came in and shows concern with harmonisation. Microsoft came into the OGC; Oracle is there for years now. What worries me is that we will have to do it so fast."

"Then there's what I call 'the consumer phenomenon'. There's some confusion going on within the OGC concerning our deep technology tradition versus the easy-use lightweight measuring. There got to be a way to mix the new wave of map images.

I would also like to mention the cost of legacy data made fit for purpose. It is going to be an expensive endeavour when our old machines aren't there anymore to read our old data."

To the end of his list of worrisome concerns, Schell made a sharp observation, which also put his own position as a chairman of the OGC in perspective: "I would like to state that there's too much optimism in reference to liabilities. We made the standards, all right. But one day someone might get killed through an application using the OGC standards. All hell will break loose at our end."

Google

Ed Parsons is a geospatial veteran who has worked for Autodesk and Ordnance Survey Great Britain before he went to Google, where he's passing through the evangelical message that: "it is our goal to organise -geographically- the world's information and make it universally accessible and useful."

"Time Magazine traditionally has its 'person of the year'. In 2006 it was proclaimed that it was 'everybody'. A unique situation, which was possible thanks to the mass amounts of user generated content of YouTube, MySpace, Wikipedia and of course Google."

Parsons clearly found a way to deal skilfully with the lesser value of Google Earth for professional users. An aerial photograph as used by Google of Schiphol Airport in the Netherlands turned out to be a picture of a scale model, with huge human beings walking around it. "Is our data useful? Is it 'fit for purpose'? We have had 200 million downloads since 2005. Admitted: we, Google, are users of geo data. And for Google's purposes a photograph with a good resolution is more important than its date."

The Google lecture was spiced with nice anecdotes concerning the very beginnings of Mash-ups, which reportedly began with the

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An attentive audience for David Schell: "Think about the net centric infrastructural, it's SOA on steroids.

hacked site Housingmaps.com. This site used Google Maps with housing information. Parsons: "When we were able to tax the added value of that mash-up to each original site, we immediately opened the API of Google Maps. All thanks to some inventive hackers."

Standards Need Revision

Luckily enough it was not all about big names and big companies. Brendan Soustal, a young Australian GIS-specialist tore the house down by his hilarious presentation of the evidence that standard measures of American railroad tracks had their origin in the wheel axes of Roman two-horse chariots. "Apparently wheel makers and decision makers have never asked a question concerning the standard. Standards aren't something you should take for granted; they can and must be updated once in a while. I think it's a crazy situation that the space of two horse's asses is still measured as the ideal size for a 21st century train wagon."

Generic Data

Not all lectures were given by cracks from the geospatial world. More and more people from the mainstream IT world come to recognise that spatial data quality issues might be applicable to 'normal' data, too. Bert Oosterhof, European CTO at Informatica, talked about the crossover between generic data and spatial data. His organisation deals with non-spatial data quality, and in hooking up with 1Spatial, tries to broaden its base, essentially offering a data quality and integration programme.
Oosterhof came with a near-to-complete list of requirements for data integration, which also makes sense for it spatial counterpart: "80 per cent of data is stored in unstructured data formats, and standards are anything but standards. Integration means that we can access, understand, migrate, check quality, cleanse, aggregate, transform, validate, synchronize and move our data without problems."

Common European Framework

Ingrid Vanden Berghe, CEO and Surveyor General of mapping agency NGI in Belgium explained how her mapping agency was preparing for INSPIRE. "Already in 2001 we were aiming at creating a seamless GIS, and we are preparing the NGI to contribute to the NSDI and ESDI initiatives within INSPIRE."
Vanden Berghe went on to show how a generalisation tool like Radius Clarity was used, and the validation process (with Radius Studio).
Ordnance Survey's Keith Murray reminded all attendees of the fact that from May 15, 2007, INSPIRE was to become European law in his speech on data integrity needs from local data quality to European ESDI's (European Spatial Data Infrastructure).

"sooner or later machines will be able to talk to machines"

1Spatial Radius Products

This need to share data was picked up by 1Spatial Product Director Graham Stickler with the question of how we could know when data is fit for purpose. Of course he neatly fitted in a little plug for 1Spatial 'expert tools', but his message also lends to a broader perspective. "We need to have a common framework. Success depends on selected and widely implemented standards. We embrace and engage in the Open Source Community and Open Technology. Furthermore we work ever closer with Oracle."
Stickler went on to explain how the 1Spatial-products, Radius Topology (for rule-based geometric cleaning and consistency) and Radius Studio (for finding business rules and automatically fixing errors in geodata) already function within Oracle Spatial. He went on to announce the support for Oracle Spatial with the Radius Vision product (Topological Editing and Management) and explained the vision for the adoption of Oracle within the Radius Clarity product (for data generalisation). The latest version of 'Studio' will be totally integrated with Autodesk's Feature Data Objects (FDO). Furthermore there will be a dashboard for the presentation of data quality, meant for non-specialists. This 'health check' indeed looks like a car's dashboard on the PC screen. This seems to be a popular item to convince managers. "Now with this new version, Radius Studio is ready for the rest of the world," claimed Stickler. Also, he announced the imminent release of a new product, Radius Sentry: the first version due in October 2007. It's an Oracle extension for the implementation of geometric corrections, based on user-defined rules. This product will show some overlap with the existing Radius Topology solution, but with one big difference. Radius Sentry will run on top of Oracle's own topology extension model, for users who chose that solution. Version 1, Stickler explained, will simply provide a data loading function, with subsequent versions allowing for editing.

World of Thought

It's remarkable to see how big organisations like Oracle, Autodesk, Intergraph, HP and the OGC show so much interest in the world of thought, and the products, of 1Spatial. The specific solutions that 1Spatial has to offer, like data generalisation, the cleaning of data sets and the measuring of data quality will continue to be niche-solutions in a small market. Well, that is until one of the big boys decides that all data worldwide will be validated with 1Spatial's tools. Who wouldn't want to have Google as a client?

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