

GIM INTERNATIONAL INTERVIEWS DAVID SCHELL, CHAIRMAN AND CEO, OPEN GEOSPATIAL CONSORTIUM

A New Age (II)

Our interview with David Shell on the background to, benefits and consequences of Microsoft Corporation joining OGC as a Principal Member provided so many interesting points that we decided to publish the interview in two parts. The first, which focused on Microsoft Corporation membership of OGC, was published in our January 2008 issue, together with an outline of OGC and introduction to David Schell. This final part focuses on topics including benefits of standards implementation, public/private partnership and views on the planet and the future.

[View Part I](#)

What are the benefits for National Mapping Agencies of adopting OGC standards?

The US Department of Agriculture and the US Army Corps of Engineers were founding members of the OGC. The US Geological Survey joined early on, and national and regional mapping agencies around the world have joined the "major user" stakeholder community in the OGC as well. Mapping Agencies contribute to the standards effort because they want standards, and they wish to influence the process by which standards are made so as to meet their own requirements. They ask for standards-compliant products in their procurements because they want to get the most out of the investments they have made in their legacy systems and out of new investments they are making in geospatial technologies. It is a question of "future-proofing" their systems and not wanting to be bound to a single vendor. They see the value of modular systems in which different capabilities can be provided by a variety of vendors possessing diverse and frequently special expertise. For these reasons standards are an integral part of most of today's enterprise information systems.

How, in this context, does the explosive growth in the use of the web affect the need for standards use?

Most information-system architectures in public and private-sector enterprise now take advantage of "loosely coupled" systems based on open web interfaces that enable web-based distributed computing. With OGC standards this new approach enables integration of geospatial capabilities into all kinds of workflow. Giving more users access to an agency's data and services means its data collections and servers have more value. Every year we see more agencies adopting our standards and as a result we see the use of the web increasing, prices for software, data and online services going down, and the benefits of the standards process becoming more compelling.

The benefits of implementing standards may arrive at a slow pace, whilst right from the start the costs may be substantial. Does this not withhold potential candidates from membership and adopting OGC standards?

To put it more simply, I think what you are asking is why a company should adopt standards if implementing them is expensive and it is not clear how to evaluate resulting benefits relative to immediate business requirements? The answer can be found by looking at vendors who have very recently implemented OGC standards in their products. They are already benefiting and have found that the costs associated with developing standards and then implementing them in their products are very similar to their usual product development costs. And they are by definition accustomed to investing in this way. Our vendor members may have had to wait a year or two until demand for standards-compliant products became a significant market driver, but our process has been fast enough to ensure that in reality the impact on product life-cycles has not been too significant for them. Now it seems apparent that we are past the tipping point in this regard, and users generally find their vendors can deliver the standardised products they require.

What is the situation for users?

For users, little additional investment is necessary. Most would be ordering upgrades and new systems even if standards were not included. A number of benefits accrue immediately because the upgrades and new systems implement standards. For example, in the past vendors often gave their users little choice but to abandon their still-useful legacy software and replace it with a newer version. Now fitting legacy systems with open interfaces is often a good option because it delays replacement of the old system and provides an avenue for adding modular capabilities at low cost. It also makes data sharing much less costly because more data becomes available and immediately usable through online interoperability with other systems.

How do you see the role of public/private partnerships in establishing Spatial Data Infrastructures (NSDI) around the world?

We encourage enlightened public/private partnerships that involve the relevant private-sector ICT players and are governed by national policies addressing major public issues and benefits. These can be very successful and innovative. We in the OGC try to work with both sides, often in our interoperability initiatives. We have done a lot of work with government agencies to create conditions for policy development, and at the same time we have been organising test-beds and pilot-projects and working closely with major commercial organisations capable of implementing the solutions those policies require. We try to encourage a well-supported and cohesive process. Without buy-in by industry, and without intelligent and enlightened agency policies, you can't have a successful NSDI. Government partners need to recognise that private-sector partners must be paid for their contribution. There needs to be a marriage that benefits the public and that is also good business for the private sector. The goal of the OGC in its Interoperability Programme is to create the conditions for this model to work. We see a spiralling kind of progress. In the beginning we worked with a spiral engineering process to create specifications. Now that this process is formalised in the way we create and manage specifications, we are trying to work with a spiral planning process involving the communities of interest who are benefiting from interoperability. We want to help agencies evolve policy in an incremental, experience-driven way. New technologies create new capabilities and thus a need for policy revision and new policies. Major users did not have this kind of influence over technology development in the past.

Driven on the one side by ICT and on the other by changing societal demands, the geospatial field is developing very fast. What will be the main move over the next five years?

Along the lines of my last answer, I think the main development will be much more policy-driven infrastructure, including for standards. But the policies will not be only government ones. The heightened awareness of the importance of policy will be driven by assimilation of geospatial services into the business models of major industries. Service industries such as real estate, insurance, transportation and energy have come to rely more on spatial data in staying competitive, and associations within these industries are looking to the OGC for help. We will see more concern about the liabilities inherent in providing data and services. In a world of climate change impacts, deteriorating physical infrastructure, domestic security threats and a transition to new energy paradigms, geospatial intelligence will be in great demand. All of these will, in my estimation, be far more important drivers than the current boom in consumer interest. I believe we will see more focus on data security and consumer access to information, but this process will be increasingly driven by the requirements of major industrial sectors such as real estate, insurance, transportation and energy, as well as national security and intelligence.

Most people think geospatial technology is 'going mainstream', meaning the consumer market is undergoing tremendous growth. You see it differently?

By saying what I said I didn't mean to imply necessarily that there is "contention" between consumer and industrial requirements in these emerging markets - these two issues are hardly opposed. In fact, the purpose of good policy is to create an ICT environment in which geospatial standards benefit the entire market. Spatial issues are now being mainstreamed and we are beginning to face complex issues that illustrate the commonality of consumer and industry interests in an increasingly interlocked economy. In this regard, it has always been important to OGC that our board is comprised of independent and visionary individuals who bring a rich and wide strategic view to the Consortium, a view that embraces this whole picture. As I have said time and again, the age requires that we no longer look at OGC as a purely technology-driven enterprise, but as an agency for harnessing technology to coherent public policy, and this most important challenge lies fully within the province of the OGC board.

How do you see the role of geospatial technology in approaching global issues such as the impacts of climate change?

It is important to say that we need to think in terms of global issues, not only because we face critical global societal challenges, but also because we now CAN think more in global terms. Geospatial technology plays a significant role in our increasingly global frame of reference. We have the ability now to talk in a more informed manner about climate change, for example. In India, high-level government officials are working with incredible diligence and intelligence to address a broad array of very difficult societal issues that relate directly to climate, world trade, and global resource depletion. There is much at stake for a billion people there in our industry's development of tools, products, and user-friendly applications to leverage global data, information, knowledge and wisdom.

A final remark or comment?

I would like to reiterate that there is a tremendous need to pay attention to liabilities, that is the risks associated with providing data and services that may figure prominently in important decisions affecting lives and property. Digital spatial information is a matter of public trust and we need to increasingly recognise this. This is not just driven by financial mechanisms and it is not just an issue involving spies and soldiers. The businesses of utilities, construction companies, insurance companies, etc, are all vitally linked and we need to accept that the world is very organic, characterised by dependencies.