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FEATURED STORY

STANDARDS COME OF AGE: CIO MAGAZINE INCLUDES BERNERS-LEE AND SCHELL IN "20 WHO MADE IT POSSIBLE" AWARDS

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The most successful standards are those that become taken for granted. After all, only by becoming universally adopted can a standard achieve its full utility. When it has achieved that status, the standard becomes not an option, but a veritable design law of physics. None may build, specify or use the relevant technology but in compliance with the successful standard. And no one would think of doing so, either. Thus it is that those who labor behind the scenes to create standards work to ensure their own invisibility.

It is for this reason that we believe it is noteworthy that not only Tim Berners-Lee, the founder and Director of the high visibility **World Wide Web Consortium**, but David Schell, the founder and President of the **OpenGIS Consortium**, were honored by inclusion in the "**20 Who Made it Possible**" list of the October 1st, 2002 issue of CIO Magazine. Included in the same short list were billionaire industry icons Bill Gates, Michael Dell, Larry Ellison, and Scott McNealy, as well as equally prominent (if less monied) high-profile individuals such as Lou Gerstner, who most would credit with saving IBM from an uncertain fate.

Not only is this recognition noteworthy, but pleasing as well. The modern world is increasingly dependent on standards, but most who are not directly involved in technology are oblivious to their existence, except in the rare cases where they become useful in marketing new products. Witness, in that regard, the **IEEE 802.11** specification, more popularly known as "**Wi-Fi**." Holiday shoppers this year are being regaled with references to this standard in full page ads promoting wireless home network servers. Few shoppers are aware, however, that the success of these products is dependent in part on the existence of the **Wi-Fi Alliance**, a 193 member consortium that has certified 522 products as interoperable since its inception.

So also with David Schell's OpenGIS Consortium. While many have heard of Berners-Lee due to his status as the inventor of the World Wide Web, few are aware of the growing influence that Schell and the OGC have on their lives. As noted in the CIO article, **geographic information systems** (the "GIS" in the "OpenGIS" name) represent "the technology that tells us where things are." Some of the most significant software and Internet based innovations of recent years depend on an awareness of "where things are," and many of the most heralded services just over the horizon will be similarly dependent.

To give but one example: as a result of OGC's efforts, when you view a map on the web, the data making up that map may be flowing not from a single point source, but from several different sources at various locations around the world. In the near future, your "location aware" wireless device -- giving you directions to your destination or hailing emergency services to where you are stranded on a country road -- will provide these services seamlessly as you roam from one carrier's service area to another. Similarly, maps and earth images are appearing more often now wherever bits make pictures, because, thanks to OGC, the data can flow smoothly among different vendors' systems. When Web Services come into wide use, through the work of OGC these services will include capabilities for every kind of geographic rendering and analysis, even enabling "spatial search engines."

Already, emergency response, agriculture, forestry, sustainable development, and homeland security operations (among many others) are increasingly reliant on geographic information, which is of little use if it can't be shared. A stark and important example of the importance of instantly locatable and shared data was provided on 9/11. Within hours of the collapse of the Twin Towers (which included the loss of New York City's Emergency Operations and GIS Center), teams of IT professional volunteers were assigned to hastily assembled batteries of workstations on Pier 92. Over the ensuing week, this team recreated essential GIS capabilities and fielded hundreds of requests on a daily basis for precise GIS based data to locate gas lines, building footprints, subway tunnels and other features amid the rubble in order to help make rescue operations possible.

Afterwards, at the request of New York City officials, OGC members applied the lessons learned from the City's recovery effort to develop new levels of interoperability to better discover, access, integrate and apply the many data sources necessary to plan for, detect and respond to future emergencies. Without the standards cooperatively created by the more than 230 government, industry and academic organizations in over 25 countries and four continents that constitute the OGC membership, the emergency efforts that followed 9/11 would have been immeasurably more difficult.

OGC's achievements are particularly impressive given the technical and diplomatic challenges which stood in the way of attaining them. Few in the general population have reason to be aware of how many diverse ways of measuring and referencing the earth are in use, and how many different strategies programmers have employed to model the geometry and attributes of geographic features and phenomena in software. The task of rationalizing and integrating these diverse methodologies was made all the greater by the bitterly competitive atmosphere which has typified the GIS and Earth imaging software industry niches for the last thirty years.

As the experience of OGC and its members demonstrates, the development of standards is never easy. For even as standards in a given area become more essential, new impediments to achieving consensus arise with each diverging and proprietary solution which commercial opportunity inspires. Standard setting is a constant struggle between the centrifugal forces of commercial opportunity and the centripetal realization that, ultimately, everyone must agree on a final platform or interface in order for anyone to win.

It is finally worth noting that the organizations that Tim Berners-Lee and David Schell lead are consortia, rather than the officially sanctioned Standards Development Organizations that long preexisted, and still coexist, with them. While not meaning that the SDOs are destined to irrelevance, the CIO awards do recognize the efficacy which single purpose organizations, rapidly organized by those that have an immediate and active interest in rapid adoption, can have in the standard setting world.

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