

Business Models that Work: Regional Data Consortia

A Breakout Discussion Session on September 29, 1999

held at the Second Aurora Partnership Conference hosted by

The Center for Advanced Spatial Technologies in Fayetteville, Arkansas

Presented by

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Overview - Using Finance Principles to Build, Maintain and Use Spatial Data and Decision Support Consortia

The Aurora Partnership represents a public-private initiative aimed at simplifying the way that multiple institutions and citizens assess and balance environmental, quality of life information and use it to make better place-based decisions. Thus far, Aurora has struggled to define organizational vehicles that would attract the resources needed to make Aurora Partnerships essential “Architectures of Relevance” for the multiple communities that need them.

Bruce Cahan distributed a summary of the Finance Thread discussion he chaired in connection with the 1999 GeoData Forum held on June 8, 1999 in Washington DC. This summary represents a resource for Aurora Partnership members to draw upon in trying to organize, finance and maintain spatial information services (**SIS**) within *consortia*.

Bruce noted that there are 3 types of consortia:

1. Regional Consortia – These focus on the SIS central to running a city, county, state or other area. Examples: SANDAG on behalf of the San Diego Area Governments
2. Industry Consortia – These develop multi-jurisdictional slices of data and SIS tailored to the needs of specific industries. Examples: The Edison Institute and The Petroleum Institute
3. Interest Group Consortia – These build data and SIS to prioritize and gain public support for a group's activities to improve environmental, health or other conditions. Examples: The Nature Conservancy's 80 Biodiversity Data Centers in North and South America



Think about these 3 types as forces of energy, moving in separate but focused orbits, with sufficient propulsion to keep a gyroscope¹ of data processes spinning: Industry and Interest Group Consortia need the data that define a communities streets, buildings, parks and people (supplied by Regional Consortia). Regional Consortia members (who want to encourage sustainable economic and real estate development, accommodate energy and telecommunications demands, use insurance to recover from and prevent disasters or otherwise deal with corporate citizens) exchange data with Industry Consortia. And members of both Regional and Industry Consortia are held accountable and hear consumer

demand through the work of Interest Group Consortia. Just like a gyroscope is a stable environment of self-contained gravitational pulls and energies, these 3 Consortia types may be mutually attracting, functioning best to synchronize and energize each other's feasibility and effectiveness.

Bruce also shared a proposal that grew out of informal discussions on behalf of Aurora in Shepherdstown and Washington for a national public-private partnership that would add 5 missing capacities that Consortia need to function (Internet Portal Development using Decision Support and other Shared Design Elements, Bulk Procurement, Financing, Data and System Quality Assurance using Open Market Standards and Shared Legal Strategies deal with Freedom of Information, Privacy, Security and other issues).

Research into Financing the NSDI: National Spatial Data Infrastructure

Urban Logic has been studying the ways to build SIS infrastructure as part a research project conducted for the Federal Geographic Data Committee. In order to illustrate precedents for how Aurora could establish its unique value by pioneering new financing models for consortia that build the infrastructure for SIS, Bruce continued his presentation by sharing with federal participants in the session a “reviewer’s copy” of an excerpt of the study’s preliminary recommendations, drawn from analogies as diverse as Fannie Mae (mortgage finance), airport facility bonds, VISA (credit cards) and bar coding.

Discussion

Participants in the breakout session were very enthusiastic about the possibilities for using these financing principles in support of the 3 types of consortia, even going so far as to encourage federal representatives from FGDC to implement the suggestions in appropriate pilot or demonstration programs. Participant questions (and answers) included the following:

1. How inclusive is your concept of *Consortia*? Given the size of the United States, consortia are a flexible, adaptive unit of organization where the need for accurate, similar scaled spatial data is shared. For New York City, the 5 Boroughs (Manhattan, Brooklyn, Bronx, Queens and Staten Island) might define a cohesive regional consortia, while Westchester County (a suburban county 30 miles north of Manhattan with 45 municipalities and 40 school districts) might be another regional consortia. Whereas, for upstate New York, multiple agricultural, rural counties might define one regional consortia to pool resources. Interest group consortia could be maintained by environmental, housing and other non-profit coalitions. Industry consortia, as the name implies, would represent energy, telecommunications, insurance, real estate and other industry SIS needs and capabilities across regions and even interest areas.
2. How would Consortia lead to financing SIS? Rapid developments in technology (like the interoperability spearheaded by public and private members involved in the OpenGIS Consortium) and in metadata framework standards (initiated by FGDC) are removing previous institutional reasons for not sharing spatial data. But interoperability and data standards require a transition in thinking, and a new way of accounting for SIS capital investments. Consortia (like airport authorities, mortgage pools and other analogies in Urban Logic’s report) offer its members the opportunity to plan and finance alignment of their individual SIS expenditures, by sharing underwriting criteria that embrace interoperability, metadata certification and other elements to make Consortia data (provided by a member or contractor) more valuable and of higher quality. Given that State Attorneys General oversee the disposition of nonprofits’ assets, Consortia that are “nonprofit” would likely have a public stewardship of their data and decision-support assets that would transcend bankruptcy or other commercial risks – overcoming one of the “continuity” issues that utilities and businesses have used to avoid data sharing.
3. How would Consortia lead to improved public access or other public policies for SIS? The commercialization of the Web demonstrates the rapid advantages of free market implementation of technology for vast numbers of consumers, businesses and governments. But this rapid transformation to a Digital Economy is not necessarily free of policy issues, including uniform public access to governmental information, data pricing by governments, implementation of Freedom of Information laws across federal, state and local datasets, liability for erroneous data, privacy assurance for data subjects and users, security of governmental and corporate information systems, and other issues relating to the widespread dependence on information infrastructure. Consortia and public financing on tax exempt, credit enhanced or other advantaged terms would permit including more of these public policy elements as underwriting criteria for the maintenance and dissemination of SIS built by regions, industry and interest groups. Stated in the reverse, without Consortia, such public policies may have little chance of being part of the commercialization model for SIS.

4. What are the primary benefits of this approach over others? For certain communities where data sharing is the norm, an approach that uses consortia as infrastructure finance vehicles may represent a new level for members. For communities that have not seen enough tangible benefits to members to justify the institutional energy and leadership to act cooperatively (notwithstanding the technology and metadata advances described in Question 1 above), consortia may attract financing and shoulder SIS capital development that no single member would otherwise justify internally and give all members access to spatial functionality that comes only from multiple, standardized datasets. Other benefits include:

- A national approach that is flexible to respond to local politics of data
- Serving as laboratories for testing the relevance and best application of national standards for Spatial Data interoperability, metadata and a capital approach to align investments in Spatial Infrastructure
- Pulling together (and in appropriate cases outsourcing) nascent demand for SIS more effectively than the market for SIS has achieved to date, thus building a broader non-federal set of markets for the SIS industry
- Reduces (through membership fees or other non-monetary transfers of SIS assets) the cost and increases the functionality each Consortia member shares over previous non-Consortia business models
- Increases the likelihood that, after pooling a deep, granular dataset, they will build shared decision support tools, further increasing the levels of trust, mutual self-interest and e-business opportunities
- For the first time, bundles sufficient demand for SIS to tap the lowest cost financing appropriate for pooled investment in an essential national and local information resource – Spatial Information Services. This bundling means that no individual SIS user's credit (and fluctuations in a city or other user's credit or SIS budget) will threaten the maintenance and growth of the Consortia.
- The federal government does not dictate Consortia policy directly. Rather federal data mandates² as well as other policy goals justify federal membership in the Consortia on the same, standardized basis as other non-federal members. The federal appetite for Consortia data gives Consortia an "Architecture of Relevance" by giving local, industry or interest group members a swift way to tap federal procurement participation to build cash flows that justify future SIS enhancements. The federal membership fees (or other credit enhancement) reduce prior "stove-piped" federal Agency approaches to finding and using SIS maintainable by the Consortia, thereby conserving federal programmatic funds for implementation (not constant study) of Agency missions in their local, industry or interest group contexts.
- Industry costs to comply with federal data mandates will likely decline as industry participants supply the spatial information responses to federal Agencies at the margin – above the general knowledge available to Agencies through membership in the Consortia. Last year the US Chamber of Commerce estimates that American businesses spent \$720 million to respond to federal regulatory requirements – some of which relates to information the Consortia would develop. By extension, similar industry and intergovernmental savings would accrue through qualification and use of consistent Consortia information to respond to state, county, city and tribal data mandates.

¹ Gyroscope image from <http://www.gyros.freeserve.co.uk/>. How a gyroscope generates anti-gravity and propulsion is explained at <http://www.accs.net/users/cefpearson/gyro.htm>.

² For a more detailed explanation of data mandates inherent in federal agency processes, see Bruce B. Cahan, Testimony before the House Subcommittee on Government Management, Information and Technology (June 9, 1999), at <http://www.house.gov/reform/gmit/hearings/testimony/990609bc.htm>, and Bruce B. Cahan,

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Issues Paper on Data Mandates for the Committee on Technology of the National Science & Technology Council's Priorities for Federal Innovation Reform (October 7, 1999), <http://www.whitehouse.gov/WH/EOP/OSTP/html/rand/summit/cahan.doc>.