

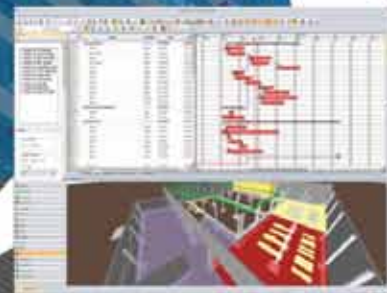
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The Wave of the Future: AEC gTLD

By David E. Ways, AIA, NCARB, LEED AP

“Building information modeling (BIM) is the act of creating an electronic model of a facility for the purpose of visualization, engineering analysis, conflict analysis, code criteria checking, cost engineering, as-built product, budgeting and many other purposes.”¹

“A basic premise is collaboration by different stakeholders at different phases of the lifecycle of a facility to insert, extract, update or modify information in the BIM process to support and reflect the roles of that stakeholder. The building information model (BIM) is a shared digital representation founded on open standards for interoperability, advanced by the buildingSMART alliance™ (bSa).”²

AN INCREASING NUMBER OF OWNERS, DESIGN professionals, contractors and facility managers are implementing open standards and software to achieve greater efficiencies through more informed decisions. This has reduced costs associated with a tremendous amount of waste. The geospatial information system (GIS) industry and bSa are jointly conducting a project, “to provide the basis for an information relationship between the two environments and their underlying databases.”³ Ultimately, a seamless exchange of building and geospatial information will be enabled (FIGURE 1).

Many stakeholders, however, including those in the supply chain, have not heard of BIM or do not understand the benefits of using the technology. A catalyst is needed to engage all stakeholders throughout the capital facilities industry to immediately start implementing a minimum level of BIM practices. One such catalyst is to provide users in the community with fundamental information sharing resources at a top domain level of the internet.

NEW MODUS OPERANDI

In 2011, the internet will profoundly change. New generic Top Level Domains (gTLDs) will be awarded by the Internet Corporation for Assigned Names and Numbers (ICANN) for various industries and their respective information communities (for example, music, movies, sports, museums and hotels). Just as the current gTLDs (.com, .net, .org, etc.) frame the internet we know today, these new domains will revolutionize the way users of the internet interface with content to unite community members using technology platforms that allow them to interact more efficiently with greater capabilities.

The architecture, engineering and construction (AEC) community could utilize a new gTLD to provide a more secure means for sharing BIM information between partners and stakeholders. Electronic commerce is facilitated using prioritized listings delivered with web searches via a new gTLD (for example, AEC community gTLD websites could display before any .com for AEC searches).

Four primary uses are envisioned for an AEC community gTLD (FIGURE 2).

1. Community: The capital facilities industry (for example, owners, planners, architects, engineers, contractors,

manufacturers, suppliers, realtors, facility managers, etc.) register AEC community domains and participate with worldwide members, who will have privileges to access information contained on second level domains. This could be used for *design*.

- 2. Websites:** Every property on earth has a geospatial relationship. An AEC gTLD could create unique property websites supported by a unique identifier to act as an *assembly* where property information, across the lifecycle, may be accessible.
- 3. Owners** of properties *operate* the facility and maintain access to secured information on their property website through authentication services provided to AEC community professionals.
- 4. Utilizers** access public information to *procure* properties, goods and services.

By simply registering their AEC community domain, authenticated stakeholders throughout the industry who are intending to conduct business can utilize this community-based platform and be involved in BIM right away. This initial level of involvement in BIM is extremely rudimentary,

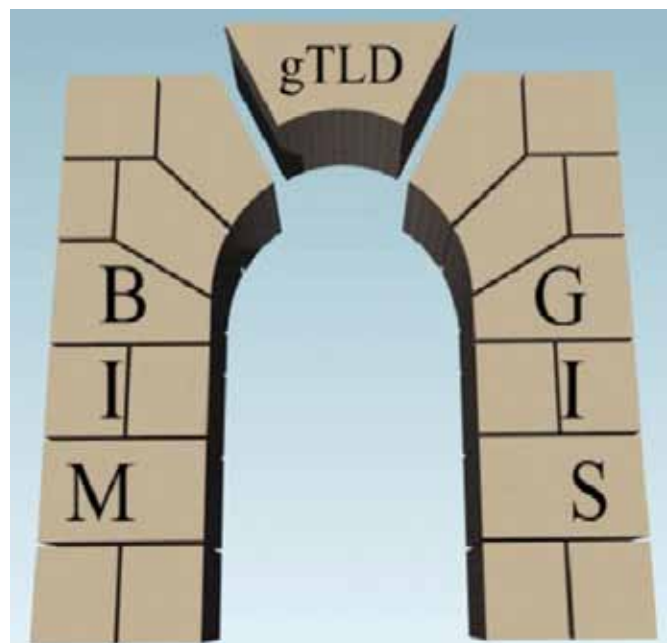


Figure 1.

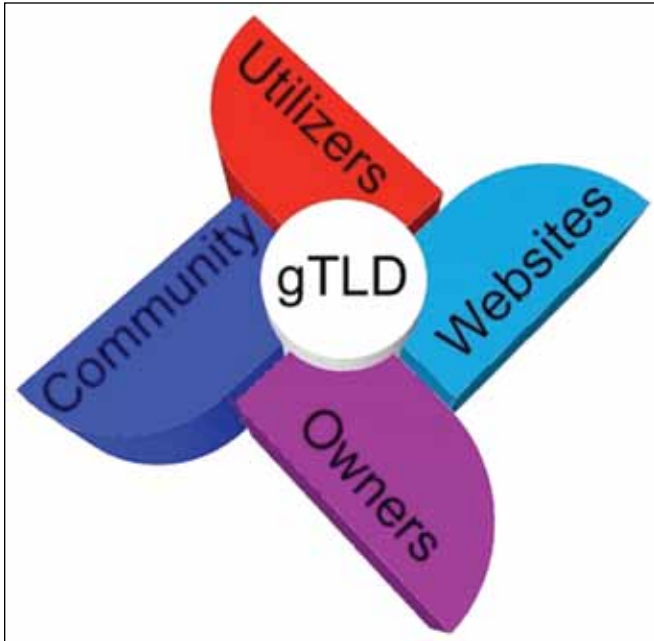


Figure 2. An adaptation of the bSa's Tetralogy of BIM.⁴

however, it promotes the collaborative, information-sharing principles of BIM across the community at large. It may also motivate “old school” architects to upload hand drawings to a client’s property website for distribution to any authorized stakeholder working on their project.

AEC gTLD ENABLES GREATER COLLABORATION

Even technically sophisticated BIM projects can benefit from this community-based approach and consolidated information system. Owners of copywritten material can make their work available for download by registered AEC community members for a fee, thus creating new revenue streams, while eliminating the wasteful need to recreate work. BIM and GIS information can be linked via the property websites for greater collaboration on current projects and retrieval of achieved information.

AEC gTLD COMMUNITY

The AEC gTLD offers every stakeholder in the capital facilities industry a place to engage in a minimum level of BIM right away, without waiting for a “BIM project” to get started. Any stakeholder may apply for an AEC community domain, thereby creating a secure and authenticatable place in the community for advertising or simply storing records about their products and services.

Registration provides a means for AEC community members to enter standard codes identifying their type of business. This enables them to receive notifications of projects posted on property websites. Further registration criteria could require AEC community members to utilize, as much as possible, open standards and interoperability methods recommended by the bSa in the *National BIM Standard™* (NBIMS) to promote best practices, utilizing data exchange protocols and Integrated Project Delivery (IPD) processes.

STANDARDIZED PROPERTY WEBSITES

Technology standards efforts now underway could provide a unique identifier for every property on Earth. This information could be indexed to AEC gTLD standardized property websites, which could then link all the information about that property, including publicly accessible information such as aerial photography, topography, soils, utilities, zoning, land use, property appraisals and ownership. Private and secure information, such as mortgages, insurance, legal and construction documents, equipment monitoring and bills, could also be linked.

Property websites could be registered by county governments and initially populated with public record information, along with geospatial web services information that is held or linked to the property website. It could then become a platform for the secure transfer of proprietary information by registered AEC community members. Collaboration among all disciplines during planning, design, analysis, bid proposals, permitting, construction, as-built records, maintenance, operations and sales could be coordinated via property websites and their attendant service offerings, thus increasing efficiency and cost savings for all stakeholders.

For example, all stakeholders have access to current designs to provide input. Bid documents are available to contractors, who, in turn, submit quotes and have access to any addendums throughout the process. Permit drawings and construction documents are accessible so every stakeholder utilizes current information at all times. Access to intellectual property, the exchange of vital documents and notices of business opportunities also create new revenue streams for originators of the information as well as for AEC community members.

Remote monitoring and operations of mechanical equipment for energy management, HVAC controls, lighting, security and other systems can be performed via the websites. This would improve a building’s performance, reduce its fuel consumption and carbon emissions and track its sustainability. As files are posted, computer software could convert naming formats to be uniform among all property websites, utilizing standardized templates and nomenclature. This would enable greater capabilities for the retrieval of information from various mobile internet devices. ■

David E. Ways, AIA, NCARB, LEED AP, is the founder of DotBim, LLP and is proposing a .BIM extension as a new generic Top Level Domain (gTLD) through the Internet Corporation for Assigned Names and Numbers (ICANN). He can be reached at dew@DotBim.com.

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