

Open Information Exchange Standards: Developing Standards to Support Successful Computerized Maintenance Management System (CMMS) Implementation

Successful computerized maintenance management system (CMMS) implementation depends on complete and accurate data about major maintainable equipment. As the facility management industry advances, there is an increasing need for consistent, accurate data to more fully populate CMMS and other facility management software. One approach is using open information exchanges. Multiple information exchange projects to develop standards are currently in progress to simplify and streamline planning, design, construction, and operations processing using the U.S. [National Building Information Modeling Standard](#) (NBIMS-US). The following summary provides the goal and an introduction to each of these NBIMS-US open information exchange projects; for further details, see www.nibs.org/?page=bsa_infoexchange.

BIM server information exchange (BIMSie)

- **Goal:** To design a web-service interface for software-to-software information exchange, particularly for when entire building model data sets do not need to be exchanged.
- **For more information:** www.nibs.org/?page=bsa_bimsie.

Building automation modeling information exchange (BAMie)

- **Goal:** To prepare an open standard exchange format for building control systems, including HVAC control systems, security systems, energy monitoring sensors and meters, etc. This information exchange could unify and simplify collection of control system information across all types of building control systems.
- **For more information:** www.nibs.org/?page=bsa_bamie.

Building programming information exchange (BPie)

- **Goal:** To harmonize and unify agency-specific and proprietary information used in architectural planning software, and import the architectural program into design models.
- **For more information:** www.nibs.org/?page=bsa_bpie

Construction operation buildings information exchange (COBie)

- **Goal:** To deliver information about facility assets to the owner at the end of the construction project.
- **For more information:** www.nibs.org/?page=bsa_cobie.

Electrical system information exchange (Sparkie)

- **Goal:** To deliver information about assemblies and connections that make up a facility's electrical distribution system. Sparkie contains all COBie electrical components, plus representations of the distribution panels, feeders, and circuits that allow the system to function.
- **For more information:** www.nibs.org/?page=bsa_sparkie.

HVAC information exchange (HVACie)

- **Goal:** To deliver information about assemblies and connections that make up a facility's HVAC system. HVACie contains all COBie HVAC components, plus the piping, ductwork, and valving that connect and allow these systems to operate.
- **For more information:** www.nibs.org/?page=bsa_hvacie.

Life-cycle information exchange for facility asset information (LCie)

- **Goal:** To identify and streamline individual business processes required to create, maintain, and collect life-cycle COBie data.
- **For more information:** www.nibs.org/?page=bsa_lcie.

Quantity takeoff information exchange (QTie)

- **Goal:** To reduce waste in counting specific unitary building components, pricing of building components based on quality, and defining the method of construction.
- **For more information:** www.nibs.org/?page=bsa_qtie.

Specifiers' properties information exchange (SPie)

- **Goal:** To establish a minimum baseline set of product properties across the various phases of a facility. The internationally reviewed COBie guide commentary document, the unified facility guide specifications, and federal green construction specifications have been used to define what products to include and the set of attributes for each.
- **For more information:** www.nibs.org/?page=bsa_spie.

Wall information exchange (WALLie)

- **Goal:** To establish a set of wall type templates that may be used, either as a group or as individual layering definitions, to simplify the job of designing and constructing walls.
- **For more information:** www.nibs.org/?page=bsa_wallie.

Water system information exchange (WSie)

- **Goal:** To deliver information about assemblies and connections that make up a facility's water distribution and waste systems. WSie contains all COBie water system components, plus representation of the piping, valves, and strainers that allow the system to function.
For more information: www.nibs.org/?page=bsa_wsie.