



# Adopt Information Exchange Standards and Harvest Benefits

By William Brodt

Adopting new industry standards, particularly the Construction Operations Building Information Exchange (COBie) and the OmniClass™ Construction Classification System are straightforward means to reduce costs associated with data collection, overcome incompatibility problems, and improve overall facility performance. Facility managers collect information in various combinations of hardcopy documents and electronic data. Too often it's "stove piped" for specific uses, incompatible with related systems, or simply lost by the time it's needed. Also too often, useful information, easily obtainable at the time of creation, is not captured because the cost to acquire it exceeds the budget and the benefit is not immediately accrued.

## WASTE NOT, WANT NOT

There is more waste in the capital facilities industry than in the comparatively lean manufacturing industry, and much of this difference can be attributed to:

1. the lack of information exchange standards, and
2. reliance on paper-based information exchanges [Eastman; Gallaher]. Although numerous obstacles existed, it was clear 20 years ago that a better way was possible [FFC; BICE].

Manufacturers, the authoritative source for product information, prepared documents electronically, and the least expensive and the most accurate way of obtaining product information

was through electronic data exchanges. Furthermore, facility management information systems had the capability to consume and use a considerable amount of product information data such as warranty and safety data, preventive maintenance schedules, spare parts, special tools, etc.

A rigorous process of extensive market research to identify criteria for a new maintenance management system including product information data elements, followed by a thoughtful procurement process, do not necessarily yield all the anticipated benefits. While the selected product may provide

IT'S DIFFICULT TO DEVELOP STRATEGIES TO OPTIMIZE MAINTENANCE WHEN POTENTIALLY USEFUL INFORMATION IS MISSING.



An actual traditional pre-COBie construction project submittal handover.

SOURCE: US ARMY CORPS OF ENGINEERS/ENGINEERING RESEARCH AND DEVELOPMENT CENTER/CONSTRUCTION ENGINEERING RESEARCH LABORATORY.

the prospect of substantially improving maintenance performance, there must also be resources to support data entry of the nameplate, warranty, safety, spare parts and other important information. Otherwise, much of the anticipated prospective capability is never realized. Building such a database via keystroke data entry and individual contract agreements is costly and rarely achievable.

Product manufacturers routinely print and ship numerous copies of technical documents for contract requirements and to replace those which become lost. This waste is hidden in overhead costs. The internet and various electronic documentation methods reduce the printing and shipping costs, but don't integrate the manufacturer's information with the owner's facility management systems. The solution is for manufacturers to provide required information electronically via a standard data exchange so that it can be incorporated into owner's systems automatically at nearly nil cost. With tens of thousands of building industry products and hundreds of information systems, transforming building industry practice involves both (1) creating a suitable information exchange standard and (2) converting the standard into *standard industry practice*.

#### COBIE AND OMNICLASS STANDARDS

COBie and OmniClass are now recognized internationally and incorporated into the National Building Information Model Standard—U.S., v.2 (NBIMS). An increasing number of the design, construction and facility management systems now include the capability to export and import data via these standards.

OmniClass is useful for many applications, from organizing library materials, product literature, and project information, to providing a classification structure for electronic databases. Although the name OmniClass is new, this classification system actually incorporates extant systems—MasterFormat™ and

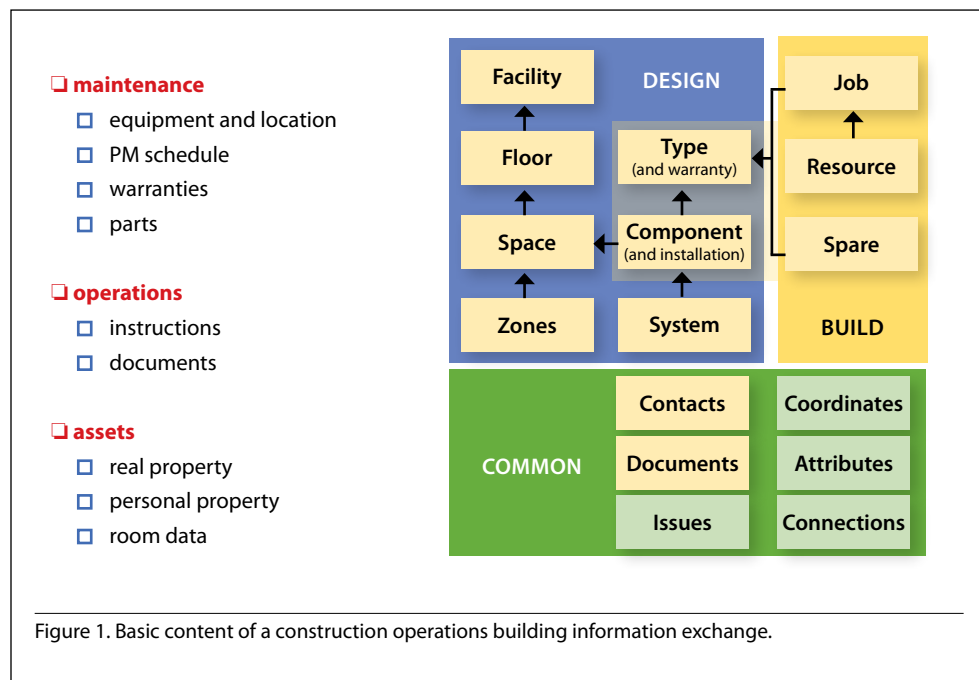


Figure 1. Basic content of a construction operations building information exchange.

UniFormat are well known examples. Others are less well known, but important for their purposes. Typically, a locally developed classification system is not as robust as OmniClass.

OmniClass advantages stem from the concept of life-cycle facility management. Obviously when information passes from design, through construction, to the owner/operator, it's cheaper and more accurate to pass the information without modifying it. If a subsequent facility alteration or renovation contemplated, it's also easier and more accurate to provide the information to the new designer in the same form in which it was originally created.

Building control systems generate enormous amounts of data, and increasingly interface with maintenance management applications. COBie provides the structure for obtaining and exchanging key nameplate and specification information. OmniClass tables employed within COBie support these processes. New COBie derivatives and extensions address the specific real time processes.

Building commissioning and certification programs such as U. S. Green Building Council's Leadership in Envi-


ronmental and Energy Design (LEED) and Green Globes require information about products and systems and their performance. COBie derivatives and extensions also facilitate such requirements. OmniClass tables complement these activities.

Maintenance strategies built upon the principles of reliability centered maintenance and failure modes and effects analyses benefit from COBie and OmniClass. Actually, it's likely that many of the potentially useful data elements within most existing equipment records are blank. It's difficult to develop strategies to optimize maintenance when potentially useful information is missing.

#### NOW IS THE TIME

Currently the real property management community is seeking ways to improve facility utilization. Federal agencies and commercial firms put considerable effort into the OmniClass tables which define facility spaces and types. Although some Federal agencies have long used very detailed facility classification tables, many others have used less rigorous tables. Similarly, space classification has largely been measured

at relatively gross levels, but increased interest in sustainability and consolidation means that better metrics—typically metrics associated with specific functionality of spaces—become important. OmniClass tables support these real property management requirements.

The time to begin the transition is now with the tasks currently at hand. Ask facility management system providers to incorporate OmniClass tables and support the COBie standard. A big construction project, a modest renovation job, or a maintenance component replacement task is part of life cycle facility management and a suitable beginning point. 

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