

Taking the “Garbage Out” Reduces Costs and Improves RONA

BY BRIAN E. THOMPSON, LOS ANGELES CHAPTER

It’s a problem all property professionals have all encountered: You search your organization’s inventory database for a certain model of equipment, tool, machine, or asset and come up empty handed, with incomplete information, or inaccurate results. When it comes to inventory searches and database management, “Garbage In – Garbage Out” has long been a major headache to data managers and users alike. However, there is an answer: Structured Asset Cataloging.

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Asset cataloging is a value-added process that standardizes and structures asset descriptive attributes into consistent formats and values, and automatically combines attribute data into useful management information so as to enhance asset management processes. Computer search algorithms and languages such as SQL can obviously search for descriptive attributes such as model numbers, codes and descriptions in any database. However, unless the data is first consistently structured and normalized in the database, searches are likely to be slow, non-intuitive, incomplete and unreliable, particularly as inventory volume grows beyond a few thousand items. Studies have consistently demonstrated that up to 20% of equipment items are hidden from enterprise visibility across multiple sites because of incorrect, inaccurate or incomplete descriptive attributes. Advanced asset management software applications can simplify the cataloging process to improve the accuracy and consistency of asset records. Major benefits of structured cataloging include reduced capital expenditures, reduced support costs, improved end-user productivity and satisfaction and enhanced business processes.

Historically, the human interface is costly and unreliable when attempting to manually enter consistent descriptive attributes into an asset database over a time span of months or years. While legions of computer classification code schemes have been attempted over the years to help solve the problem, none of them have ever met all of the necessary requirements. The user interface works most cost effectively when asset data is cur-

rent, consistent, complete and in a natural user language format. Many organizations attempt to solve the problem via brute-force, by assigning analysts to continually revalidate and manually sanitize the asset records, often relying on endless physical inventories and paperwork audits to support this very costly and futile effort.

Case Studies

Many leading asset management organizations including The Boeing Company, Northrop Grumman and JHU/APL have been using cataloging tools for more than a decade for asset classification, indexing search and reporting of test, measurement, computer, data communication and manufacturing equipment, property, and facilities. These tools provide effective online search, display and reporting of fixed assets and equipment inventories by performance specifications integrated with other catalog keys – noun description, manufacturer, and model number – to facilitate the substitution, interchange and improved utilization of functionally equivalent items.

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CLIENT SUPPLIED DATA BEFORE CATALOGING

Manufacturer	Description	Model	Alt. Model
HEWLETT PACKARD	HPIII SI LASER PRINTER	HP 33491A	
HEWLETT-PACKARD CO	PRINTER LASER, HEW PACK	33440A	
HEWLETT PACKARD CO	MULTIMETER	3468B	
APPLE	MAC IICI	M5728LL/A	
COMPAQ	ALPHA SERVER	H8A10MC	
H P (TRACOR,INC)	DISPLAY	70004A	
H P (TRACOR, INC)	IF SECTION	70903A	
H P (TRACOR, INC)	LOCAL OSCILLATOR	70900B	
H P (TRACOR,INC)	MAINFRAME	70001A	
H P (TRACOR, INC)	MICROWATTMETER	4200	

CLIENT SUPPLIED DATA **AFTER** CATALOGING

Manufacturer	Description	Model	Alt. Model
HEWLETT PACKARD CO	PRINTER, LASER	III-SI	33491A
HEWLETT PACKARD CO	PRINTER, LASER	II	33440A
HEWLETT PACKARD CO	MULTIMETER, DIGITAL	3468B	
APPLE COMPUTER, INC.	COMPUTER, PC, DESKTOP	II-CI	M5728LL/A
COMPAQ COMPUTER CORP	RACK	H8A10MC	
HEWLETT PACKARD CO	ANALYZER DISPLAY	70004A	
HEWLETT PACKARD CO	ANALYZER PLUG-IN	70903A	
HEWLETT PACKARD CO	GENERATOR, OSCILLATOR	70900B	
HEWLETT PACKARD CO	HOUSING, MODULE	70001A	
BOONTON ELECTRONICS	METER, POWER	4200	

Solutions

The leading Structured Asset Cataloging solutions today support a true five-level dictionary, with the three primary levels comprising manufacturer, model/part number, and noun description attributes. Other, more basic solutions simply treat each attribute as a standalone “lookup table”, but it is critical all five dictionary levels are logically inter-related via database linkages. Thus, it is impossible to assign the incorrect noun description to a particular equipment model at the individual asset level. Once the catalog dictionary pattern is established the manufacturer, model, and noun attributes are “locked” together.

Other key features to closely examine when evaluating Cataloging solutions include the integration of performance specification data with each equipment model. This dimension adds two very important capabilities. First, the attributes are defined in metadata relationships as separate defined data entities – not just lumped into free form text records, or “hard-wired” into inflexible pre-defined data fields for each equipment category foreseen by the original software designer. This performance attribute capability enables automated side-by-side comparison of operational characteristics for different models of equipment in the same general class. Secondly, equipment users can quickly search for and identify performance equivalents and substitutes in response to requests for specific models of equipment—the normal simplistic request. Further, multi-function or re-configurable products may be cross-referenced across multiple noun and performance families; for instance, a search for a voltmeter will also turn up multi-meters having a selectable voltmeter function.

Since the cost for each customer to establish a standardizing catalog database would be prohibitively expensive, involving many years of effort to design the database, program and test the software, build the catalog data, and link it to the asset database(s), organization are turning to Commercial-Off-The-Shelf (COTS) applications instead. These pre-packaged databases enable customers to upgrade their asset and metrology databases to full structured cataloging capability at a fraction of the first-up cost. Some vendor master catalog databases contain catalog attributes for more than 265,000 pre-catalogued common models of

test and measurement equipment, analytical instruments, and computers. With state-of-the-art computer matching algorithms, the bulk of customer asset inventories can be automatically catalogued and cleaned up in a few weeks, ready to go into production. However, since customer asset records typically have numerous errors in the manufacturer or model fields, analysts must manually review and proof the conversion, as well as hand match any non-cataloged assets. Some organizations have selected to create their own custom catalog data but most professionals elect for the turnkey services, at least for the initial cleanup and conversion effort.

The Bottom Line

Having Structured Asset Cataloging tightly integrated with the organization’s asset management application enables property professionals to support Asset Reduction and Optimization (ARO) initiatives that have helped corporations shave as much as \$2 million off their annual capital budgets. Structured cataloging can obviate new purchases where assets the enterprise already owns can be utilized, including substitutes and equivalents of the desired equipment.

The average acquisition cost of a typical test and measuring instrument or desktop computer is in excess of \$4000 and the total life-cycle ownership cost investment will triple the initial cost. The cost of owning, supporting and maintaining a typical desktop computer, for example, has been estimated at anywhere between \$2,500 to \$13,000 per year by research groups such as the Gartner Group, Forrester Group and Zona Research. The initial cost to set up asset records exceeds \$10 per record. IT service calls, repairs and/or swap outs average over \$100 per occurrence. The cost to calibrate or repair a high technology item easily exceeds \$100. Using a COTS cataloging tool, the one-time cost to catalog a PC or piece of test equipment for its lifetime is less than 1/10 of one percent of the total cost of ownership!

Structured cataloging is a proven and cost-effective asset reduction and optimization tool. Successful asset redeployment, acquisition avoidance or even profitable resale of just a couple of high-value assets each year will offset the entire cost of cataloging tools and services in most organizations – with incremental savings going directly to the bottom-line. ♦

BRIAN THOMPSON, is Vice President of Sales for AssetSmart and has more than 13 years of asset management technology, sales, marketing and executive management experience. Mr. Thompson is responsible for growing and managing the company's international direct and indirect sales channels in addition to marketing initiatives. AssetSmart has been serving property professionals for more than 20 years with clients including Boeing, Honeywell, Lockheed Martin, Northrop Grumman and John Hopkins University/APL. Mr. Thompson earned a Master's in Business Administration and a Bachelor of Science in Management from Pepperdine University.