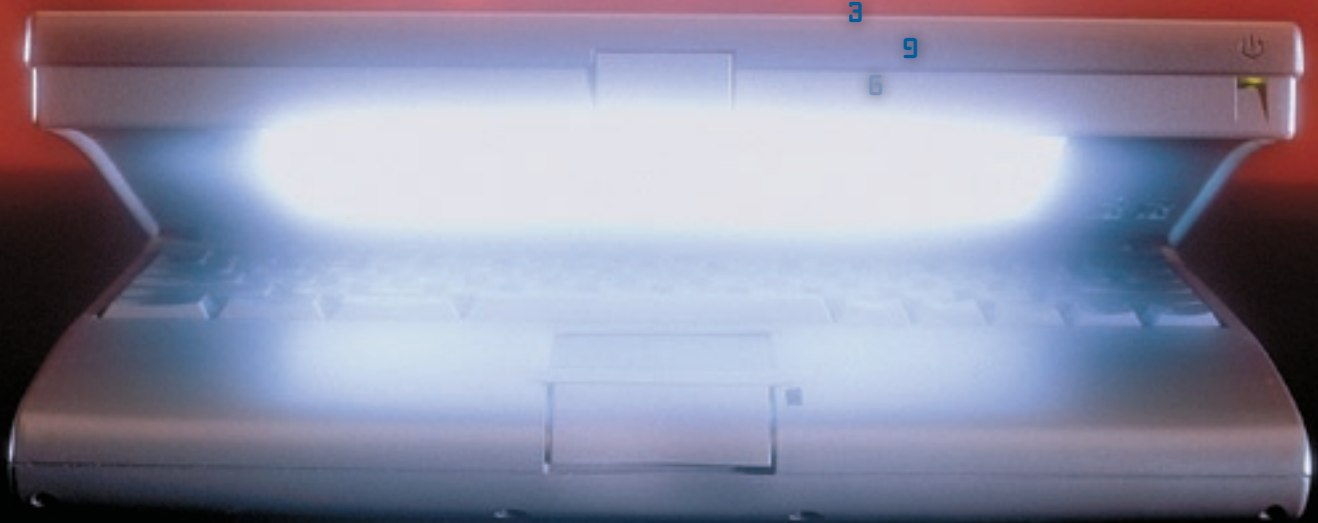


Take a Look Under the Hood

TECHNOLOGY CONSIDERATIONS
OF CONSTRUCTION
ACCOUNTING SOFTWARE



BY FRED ODE

When contractors shop for heavy equipment, such as a backhoe loader, one of the first things they look at is the engine and its hydraulics system. Why? Because if they want a machine that's going to be reliable and efficient, it must have superior power and great design. Only then does it make sense to consider such features as bucket capacity, digging depth or operator controls.

Shouldn't the same logic apply when it comes to construction accounting software? A software system capable of producing reliable, efficient results also requires superior power and great design. Too often, however, users select technology based only on features or price.

CONSTRUCTION-SPECIFIC FEATURES

Because construction accounting differs greatly from almost every other industry, construction owners and managers often use an accounting software package designed to handle the specific challenges they face on a daily basis.

Detailed job costing aside, every contractor has a unique set of requirements. A labor-intensive heavy highway contractor, for example, might need multiple state payroll and prevailing wage features. A multi-company utilities contractor, meanwhile, might require a consolidated general ledger and detailed reporting features, such as cash flow by job. A fleet-heavy excavation contractor may need to track and charge equipment usage and maintenance costs to jobs, and a general contractor may need the American Institute of Architects' billing and scheduling functions.

Many programs claim to handle certain functions, but contractors need to ask: Is this truly an automated feature, or does it take two, three or four steps to complete?

Beyond features, contractors must be aware of their accounting system's underlying technology. Not all construction-specific and feature-rich accounting systems are created equal.

UNDERLYING TECHNOLOGY

In the world of software, change happens rapidly. Twenty-five years ago, with the introduction of personal computers and spreadsheet applications like Lotus 1-2-3, construction accountants were able to accomplish accounting tasks in a fraction of the time it took with manual methods.

By the mid-1980s, DOS-based accounting packages, including construction-specific applications, began to flow into the market with even greater efficiency and productivity. By the late 1990s, in an effort to adapt to the new Windows environment and become Y2K compliant, software vendors were forced to change their products.

Herein lies some major differences in the underlying technology of products currently available. When considering the technology aspects of construction accounting software systems, contractors should ask these questions:

1. Is it current technology or an old product with a shiny new exterior?

Instead of rewriting their DOS packages from the ground up to make them true Windows products, some software developers chose to apply a graphical user interface (GUI) overlay to their old technology so it would have the look and feel of Windows. This is like putting touch-tone buttons on a rotary dial phone. It may look like newer technology, but dialing (or the processing of data) is slow and cumbersome by comparison.

When most DOS-based legacy systems were written, storage space and processing speed were the primary concerns of programmers. (Remember, the average PC hard drive in 1985 held 20 megabytes of storage compared to 80 gigabytes today—that's 4,000 times more space.) As a result, compromises were made in terms of information and functionality. A classic example was the storing of dates using six digits, which led to the Y2K scare at the turn of the century. Other compromises included limited information, hard closes and cumbersome processes.

Modifications to these older structures has proven difficult, if not impossible, to achieve. And though developers have found it possible to add storage capacity and features to their programs, the original design remains intact. Every new feature

adds layer upon layer of programming code, making an old system even less efficient and more difficult to manage.

Newer products, on the other hand, can take advantage of current technologies and approaches, which lead to greater efficiencies in job cost accounting. Because storage space is no longer an issue, developers of construction accounting software programs can focus on the functions most important to contractors.

2. What kind of database platform does the software use?

In examining construction accounting software, one of the most important technology considerations is the system's database. The database is not only the "warehouse" that stores vital accounting information, but also the "engine" that drives data input and output. In addition, it serves as the "information manager" responsible for efficiency, stability and security.

Accounting software programs are supported by many different databases today. Older systems, and many inexpensive off-the-shelf systems, generally use a proprietary database. In contrast, many newer and mid-range construction-specific accounting systems use an open system database. This means they use a common language, such as Structured Query Language (SQL), and follow industry standards that allow external programs to access data, making integration fast and seamless.

In general, the more transactions a contractor completes, the more robust the database needs to be. Database products vary according to the number of users allowed, the cost for each user license, the ability to be scaled up or down to meet the needs of growing businesses, and adoption by the industry. Besides speed and performance issues, the database controls integration of data (between modules and third-party software), data security and search ability, and has a huge impact on reporting capabilities.

PROGRAMMING DESIGN CONSIDERATIONS

In addition to the engine that drives a software application, it's important to examine programming design. Here are a few considerations:

TAKE A LOOK
UNDER THE HOOD

6,202,00

1,053,11

2,453,00

3,115,45

1

2,258,40

245,23

10

31,40

1,256,45

3,



• **Is it a date-driven system?** Because every transaction is saved and stamped with its date of origin, date-sensitive and transaction-based systems allow reporting from any time period. This design feature allows users to move into a new accounting period while still working on activities from the previous year. And unlike hard-close systems common among legacy accounting products, it allows users to run reports from any time in the past.

• **Does it have custom report-writing capabilities?** Most systems include canned or standard reports, but inevitably a contractor requires a report that does not exist. In addition, most accounting programs integrate with popular third-party reporting software, but not every third-party program can accommodate construction reporting needs. Customizable report writers designed specifically for the accounting application provide contractors with additional flexibility, as well as the ability to retrieve desired data without the need for programming aptitude.

• **Does it include drilldowns?** Good accounting software anticipates the level of detail the user might want with drilldown capabilities. For example, some products allow users to drill down

to general ledger history detail from any account on an income statement. However, users often need to define their own drilldowns.

A contractor, for instance, may look at an estimated versus actual labor hour report for current jobs and decide he wants to see current labor hours by cost code for a specific job within the report. From there, the contractor may want to see which employees worked on the cost code by day of the week. A capable system allows the user to choose a logical drilldown point and open a more detailed report.

• **Does it provide a complete audit trail?** Some applications allow users to void, delete or reverse transactions without any traceable records. It is critical for users to have the ability to trace every transaction to its original date and source. An always-on audit trail guarantees a corrected payment error is traceable back to the original invoice. Contractors also need to keep in mind that this feature, as well as other generally accepted accounting principles, may be required for audits conducted by outside CPAs.

• **What is the software company's commitment to technology?** This is not an easy question to answer. However, users must consider when the software was written, how often updates are issued and

whether the parent company developed it or acquired it as part of a suite of accounting systems.

Within the construction accounting software industry, a surge of acquisitions and rollups have cycled through the market. One company might sell five different software packages, which begs more questions: Does the company have the ability to focus on more than one product? Does the company intend to put research and development funds into every one? Or, was the intent to buy out one competitor and live off "maintenance" revenue?

Construction accounting software technology evolves constantly. Construction owners and managers might feel they can't keep up, but a basic understanding of what's under the hood can help companies achieve a good return on their investment. It is possible to use outdated technology to perform job cost accounting functions, but companies using faster, more efficient products will quickly outperform their competitors.

Ode is CEO of Foundation Software, Brunswick, Ohio. For more information, call (800) 246-0800, email fred@foundationsoft.com or visit www.foundationsoft.com.