

Bridging Two Worlds

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Every modern organization strives to automate its business processes, to release human energy for more interesting and useful work and to provide the organization with a more timely and accurate picture of its operations. For many, the vision is an ubiquitous, almost transparent system that allows instant internal and external communication, information storage and retrieval, and enhanced management capabilities, all within an environment that is open and secure at the same time.

Considerable progress has been made towards this goal. Consciously or not, institutions and corporations have transformed and redesigned themselves to take advantage of the new electronic technologies. But at the heart of many businesses, where the electronic pulse should be beating strongest, paper documents are slowing the pace.

In recent years, Contract Management software has emerged as a sector that recognizes the need to resolve a paradox of 21st century commerce - business cannot reap the benefits of digital technology until and unless it comes to terms with the written contract. So far, this fundamental business enabler has resisted the automation that reaches into every other corner of the enterprise.

With more organizations signing more contracts with more customers, Contract Management systems must now become a true business process. From a governance perspective, in the light of recent corporate scandals, regulators and legislators are demanding tighter, more visible controls. From a business point of view, companies must be sure they receive all the value they pay for in supplier contracts, through service agreements, discounts and 'loyalty' programs. Managers want to eliminate the waste and inefficiency of paper handling associated with contracts.

There is still a huge gulf between a signed contract document and the digitized business processes that it should set in motion and remain associated with. PKI technology and digital signatures promise to eliminate paper, but they have a clumsy and expensive infrastructure and often find limited acceptance among clients and customers. Rolling it out to remote and diverse locations is not always feasible, and there are lingering uncertainties about the identity of an originator. In fact, recipients may not even be able to positively identify the originating computer.

Optical Character Recognition (OCR) technology also extends a promise for contract management. OCR systems can import most language from most contracts into most computer systems with a quite high degree of accuracy, most of the time. Successful contract management using OCR systems is only possible under highly controlled circumstances, however, because ambiguities, exceptions and inaccuracies cannot and do not flag or highlight themselves. Salespeople may modify 'boilerplate' contracts, facsimile machines may distort them and, all too often, OCR systems that are designed to make intelligent 'guesses' will misinterpret letters and numbers.

Even 'boilerplate' contracts can change, and unless every page can be positively identified, versions can become mixed up. Operators might scan in pages of a document, but never be sure whether they are scanning the correct pages. Where fax quality has suffered, operators must call for another transmission.

Beyond errors, there are security concerns. Why are hourly-rated, temporary, casual or even outsourced employees not only handling but reading and cross-checking the organization's most sensitive and important documents? Despite its high-tech trappings of scanners, computers and software, an OCR system is often an expensive and time-consuming way to add more paper handling to a business process, not less. Manual intervention is always necessary in OCR systems. That costs money, and because it is inherently error prone, it is not money well spent. Human error checking does not eliminate errors.

“We need the digital information to drive the business processes but we are in a paper world. How do we bridge those two worlds?”

One answer to this 21st century challenge is already more than half a century old. Patented in 1952, and propelled into widespread commercial use with 1973's Universal Product Code, bar code technology is a bridge between the physical world and the digital world, between the signature on a paper contract and the certainty that a valid contract exists, between the terms in the contract and the electronic business processes that written signature can initiate.

Placing a bar code – unique, permanent and always legible – on each page of every version of a contract means Contract Management is a reality, not just a phrase. Contracts can be managed. Business rules can be built into every contract, whether they govern thousands of individual consumer contracts, or unique, complex, multi-year agreements between corporations.

Most Contract Management systems call for human operators to key in the content of a contract and then somehow associate the paper document with that digital content. Events on one side are not necessarily 'connected' with events on the other side. Contracts, validated by barcode, can be available anywhere the network reaches. The contracts 'filing cabinet' is not just up to date and accessible, it can be programmed to generate reports, alerts and to 'push' any relevant business process in the enterprise. The legal, binding contract can be stored on paper but remain available, in data format and as an image on-screen for any individual or any business process that needs to work with it.

Bar codes allow granular tracking and management of individual clauses or even words in a contract. They can be tracked internally while the contract is being

developed, and outside the organization while the contract is being negotiated. To whom has it been sent, and by whom, and when? Have they seen it, and if so, have they approved it? Who made the revisions, and what were their changes?

The bar code on a product or document is merely the visible manifestation of a digital record, one that can be as basic, complex, public or secure as the organization chooses to make it. The unique bar code that a supermarket clerk prints out to stick on a package to facilitate a customer's movement past the checkout counter does a lot more than flash a number on a cash register. It can be used to notify Human Resources about the employee's sales volume, to tell Accounting to expect some money, and tell store management to order more product.

In the same way, the bar code on the page of a document can indicate which page of how many it is, when and where it was generated, what changes have been made from previous documents, and who has seen it. Redundant bar coding, literally two versions of the same code at the bottom of the page, means the document can be faxed over deficient telephone lines. The bar code means that the original document can be traced and regenerated instantly, eliminating any potential for repudiation.

The 'fax' machines, whether on the receiving or transmitting end, can be and typically are 'virtual, running on networks, but the method of transmission is almost irrelevant. If for security reasons an organization wishes to hand-deliver contracts for entry, that can be done using a scanner. The barcode contract management system will still: verify that all the pages of the document have arrived; sort them in the right order; determine if the contract is a new version; turn inverted pages right side up; confirm that the content on each page is unchanged from creation; and, begin to associate it with any number of business processes. These automated processes, inherent in a bar code contract management system, enable checks and balances that would simply not be available in an OCR environment.

Bar code technology works in the real world of warehouses and supermarkets, and it works in the world of Contract Management as well. Whether it is faxed, emailed as an attachment, or scanned in manually, the bar code is a unique identifier that allows anyone with authorization to find any contract on the network. If they are allowed access, they can read the original, signed document as stored in the system. If they wish, they can print it out, fax it or attach a copy to an email.

More importantly, from a management point of view, all the data in all the contracts can be rolled up into reports that are as detailed as the company's software can make them. A manager can set flags to be notified when the numbers in the contracts rise or fall above a certain point; when all contracts of a certain size come up for renegotiation; or, any other pointer that they need the data now available to them.

“We will not activate and bill for this service until we have seen a signed contract”

When contract information becomes subject to business rules, management not only receives fewer surprises but an organization can begin to respond much faster. Instead of faxing or hand-delivering hard copies to every part of the business, notification is immediate and automatic. Salespeople are always motivated to notify Billing they have made sales, but not always eager to share the information elsewhere within the organization, especially if they have negotiated unrealistic financial terms or delivery dates. Embedding the business rules inside the Contract Management software makes it impossible to create contracts if the terms have not been approved.

Business rules can be built into the document when it is first generated or changed later as circumstances dictate. Streamlining the business process can reduce start times from months and weeks to days and hours, so revenues can be recognized, costs reduced and competitors prevented from inducing ‘buyer’s remorse’ because it takes too long to begin delivery.

Bar code technology may not be new, but it has become universal because it is inexpensive, stable, easy to use and it works with enterprise-scale Information Technology systems. The benefits of Contract Management are clear. With bar code technology, they are attainable.

Richard Bray is an Ottawa-based writer and columnist and editor, dealing with Information Technology in general, and procurement in particular. His columns, features and editorials in “Summit” magazine, a Canadian journal on public sector procurement bring news, analysis and opinion to managers with IT responsibilities and interest.