Bar code technology

Classified document control

by James M. Ganz

Could the Army use the same system to control classified documents as the one used to manage food in your neighborhood supermarket?

This question, or one like it, was posed to the Army Electronics Research and Development Command (ERADCOM) nearly a year ago. Since that time, the command's staff has been planning a major test of this new technology in the document control world and ERADCOM's Signals Warfare Laboratory (SWL), Vint Hill Farms Station, Warrenton, Virginia, will be the site of the pilot test program.

Classified holdings in two of SWL's divisions will be converted to the bar code label system during the initial 6-month test period. The divisions' documents will be dually controlled, using both the conventional manual method and the bar code labels. After the test period an evaluation of time and motion studies and economic analysis will be made to determine the system's adaptability for general use throughout ERADCOM and, subsequently, the Army.

The equipment to be used consists of simple alpha-numeric high density code 3-of-9 adhesive tags manufactured by Markem Corporation, Keene, N.H., and the MSI model 88 bar code label scanner. The scanner has 48 thousand bytes of memory and communicates with the computer over telephone lines through use of a built-in acoustic coupler.

SWL has used bar code labels before to keep track of equipment and property. In fact, because they made it possible to separately and distinctly identify property book items, they were given a satisfactory grade and lauditory letter from Army Materiel Development and Readiness Command evaluators last year.

Conventional inventories without bar code labels were always cumbersome. A lot of time had to be spent identifying and verifying every item. Unless a positive step was taken, some pieces could easily have been counted more than once and others not at all.

Using bar code labels eliminated all this. Because all the research work and cross referencing was done up front — once, a faster and more accurate inventory resulted. Each piece of equipment or furniture had its own label number. This feature made reconciliation very easy because controlling information linking the label number to a particular custodian, organizational element or room, could be added to the data base. The result was a machine-generated listing of overages or shortages that greatly reduced the time normally spent in reconciliation and typing of forms.

All this led to the adoption of the data base and labels for control of classified documents at SWL. Today, both property accountability and document control systems are semi-automatic. That is, most inventories and forms are prepared manually, while the computer is used for other transactions and data manipulation. Soon, both will be fully automated. When a classified document is received in the Laboratory, a DA Form 3964, Classified Document Accountability Record is prepared and an entry made on DA Form 455, Mail and Document Register. Another entry is made on the data base and the document is ready to go from the top secret and secret control officer to the division custodian. In addition, a bar code label is now

affixed to the document and the label number is added to the data base as a means of cross-referencing to other control items.

The individuality of items with bar code label numbers is helpful when controlling classified documents. Under the old control system, if a document consisted of a letter, with two endorsements and three enclosures, all classified, the entire package (document) was assigned one control number. With the labels, there are six different numbers and all are cross-referenced to the one current control number. If there are multiple copies of a document, then each copy, including each item, has a separate number.

To conduct an inventory under the old system, the custodian and a witnessing official had to locate each document, physically handle it, review it for down-grading or declassification and verify that the document in hand was indeed the same as that named on the receipt and that all controlling data was accurate. Then, the custodian provided a listing of findings to the top secret and secret control officer and a mutual reconciliation took place.

Using the new system, the inventory is accomplished by reading the label number with the scanner. Reconciliation is performed automatically when the machine generates a shortage/overage report.

During the pilot program at SWL, emphasis is being given to enhancing the inventory process, with particular attention on verification and reconciliation. It is anticipated that a 40 percent savings in manpower can be realized in just these two areas and the need for a witnessing official can be entirely eliminated.

Table 1 shows the items included in the SWL classified documents control data base. Listings (reports) can be generated for any item on the left side of the table. With bar code labels, two additional items can be added — the bar code label number and discrepancies (over/short). There is also room in the data base for name, account number, building, division, branch, room, safe number and drawer.

To keep documents from being illegally reproduced, the labels will be color coded according to security classification — red for secret, yellow for top secret and so on. If a document is reproduced without approval, it will have to have a black label and thus will be easily detected as fraudulent. On those occasions when reproduction is approved, a new color-coded label will be applied and the necessary controls entered into the data base.

Figure 1: Potential Application

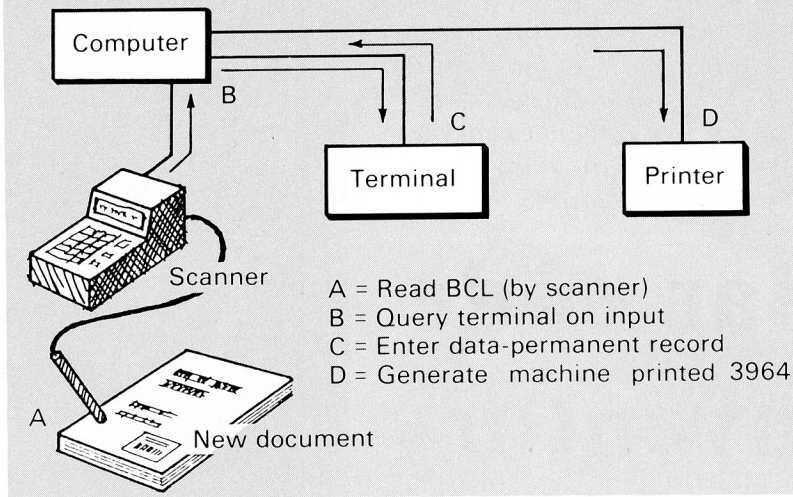

Figure 1 shows one application of the bar code label technology that has labor-saving potential. When a new document is received, a label can be applied. The label could then be read by the scanner and transmitted to the computer by remote terminal. The computer could query the terminal on input and controlling data could be entered to form a permanent record. On command, the computer would provide the prescribed information to a line printer, where DA Forms 3964 and 455 would be printed. This would save the time-consuming manual preparation of these two forms.

Using bar code label technology for control of classified documents has unlimited possibilities. Although the pilot program at SWL will target on inventory enhancement and focus on the verification and reconciliation phases, an incremental plan of attack will be employed. After successful completion and adoption of each increment, another, more ambitious effort will be tested and evaluated.

It is quite possible that, over the next horizon, there might be a whole new method of controlling classified documents in the 1980s.

Table 1: Classified Documents Data Base

Control number	Individual item (of items)
Division	Number of copy (of copies)
Classification	Date originated
Date received (also range of dates)	Description
Status (A = active, I = inactive, D = destroyed)	Originator
Courier Register number	Remarks
Review Declassify	(Destruction Transmission data)

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