'Privatize' Your Sensitive Reports

ALEC MULVEY

R ECENTLY I was working at a client's site and was asked if Q&A could show certain figures. "Sure" I said, and 15 minutes later the client had in his hand a beautifully-formatted crosstab report with headers and footers that showed his sales, broken down by product and month. He was ecstatic. "That's fantastic!" he said. "It was always there in Q&A," I replied, realising that my marketing had been deficient and making a mental note to approach many of my other clients and offer them my report-writing services.

He had me creating similar reports in that database and then in some others. It was clear that this was wonderful information he had just been given and he studied these reports with glee. Then he saw a snag: "Can all of my staff print off these reports?" he asked. "Yes" I replied, "right now they can, but I can do something to stop them." I'm going to show you now how this is done in detail. This undocumented capability was first published in *The Quick Answer* back in March 1994, by…well… by me, actually. It was my very first contribution to this newsletter and I feel it's time, after seven years, to revisit it. Besides, I've found a simpler implementation of it that's worth showing you.

How secure can a report be?

There are actually two subtly different uses for this technique. In the example I gave back in 1994 I described how you might want to protect certain fields and reports based on them. These might be HR appraisals, salary and the like in a staff database. However, what my client wanted was something different. There is no one field which is "secret," "sensitive"—call it what you like. What he did not want anyone else seeing is the analysis of his business—the totals, profitability, the trends. Sure, there would be nothing to stop any of his staff from preparing such a report themselves. They could view it on-screen or print it out, or even print it to disk. But he did not consider that to be too great a threat. He wanted to stop them seeing a report listed with a title that would tempt them to run it just to be nosey.

By simply making some reports "invisible" you acquire a basic level of protection from inquisitive staff snooping, whether it's malicious or just out of boredom. As with all security, stopping a determined hacker is another matter altogether. I've often been asked about pushing Q&A's security to extreme limits, and I've usually talked the client out of it, questioning the wisdom of doing so when it is virtually impossible to stop dishonest staff from stealing your whole database by some means or other (think of it), or malicious staff from deleting your whole database. (I can already hear some of you say that's not right—but it would take a great deal of effort to completely protect your data - more than most would accept.)

Enter Field Security

So how's it done? In short, by using *Field-Level Security* and including a field only the manager has access to. Field-level security is one of Q&A's three security mechanisms. The others are *Access Rights* and *Database Lock* (which is independent of the other two and is found not on the Security menu but under File / Design / Customise Application).

In order to use field-level security you first need to apply basic security by setting access rights for users. You can then apply field-level security as an extra layer of security. It sounds complicated, but if all you want to do is have some invisible reports, it's really easy to set up, and I'll show you now what you need to do.

In the download file for Online Edition subscribers, you will find two

Quick Tip

Good Intentions and Attention to Detail

Over the past couple of years, I've seen many instances with clients where they've gotten things *nearly* right, but not right enough. Here are a few examples of the more striking situations I've encountered.

- **Rampant virus attack.** They say, "We have bang up-to-date anti-virus Software." They *have*, but it was *disabled* because it made the computer too slow, hogged memory, or the like.

- **Virus infestation.** They have anti-virus software installed all right. But the virus definition file hasn't been updated in two years.

- **A database becoming corrupted again the day after I repaired it.** "You *do* have a UPS (Uninterruptible Power Supply), don't you?—I recommended this a year ago." "Oh yes!" I hear," only to discover that they recently moved Q&A to a newer computer and the UPS is still connected to the *old* one.

- **Database corruption occurring.** "You *are* running Q&A with Lesspace, aren't you?" "Oh yes—it's on all the PCs." But it turns out that although it is "on" all the PCs, that's all it is. It's not actually being used. They haven't changed their Q&A shortcuts to start Q&A with a batch file that loads Lesspace before starting Q&A.

- **Backups being performed nightly**. But when it becomes necessary to restore, it's discovered that the Q&A database files—*the most important files they have*—were not being backed up.

In all of these cases one can only say, "Good try, but not good enough." It's a tough old world, and lack of attention to detail is going to cost you sooner or later.

Alec Mulvey
Keyword Training & Consultancy

[My personal favorite is all the people I hear from (including Quick Answer *readers!) whose Q&A shortcuts are set up to run QA1.EXE instead of QA.COM, and the bizarre arguments they give in favor of not correcting it.*

Another favorite is folks who refuse to accept so much as an ounce of responsibility for the disaster they find themselves smack in the middle of, such as an important database that finally went south, probably after ignored error messages during certain operations and years of maintenace neglect. Of course the database was on their computer and they used it every day, but they had "nothing to do with" the problem (and had no backup to boot)! "I'm not an expert, how should I know?" they say. Or, "You're supposed to be the guru. Can't you fix it?"

I recall a guy who blew up over the phone because his key employee had just left the company in a huff. Nobody else knew the password to a vital database and I was "refusing" to impart to him the well-kept "secret of how to get into the file without it." —Ed.]

databases. ALLREPTS.dtf is a sample database I prepared specifically to show the value of private reports. Figure 1 shows what it looks like:

The first thing you need to do is to ensure that there is one field in your database that's viewable only by the "Manager," as we'll call the person who will have sole access to some reports. There may already be one or more candidate fields in your own database. If there isn't, then you will need to add one.

You'll see in Figure 1 that the sample database already has an extra field: the "Private" field in the lower left corner. This can be a text field, of any size, placed wherever you like. You will need to be able to access it though, so don't make it label-less and almost impossible to find!

Adding basic security

The next stage is to add basic security. This entails setting up at least two users and assigning Access Rights to them. One user is the manager. The other(s) will have lesser rights. For this example the users are Betsy and Mark.

To set up the very first user, go to File / Design / Secure a File (in Q&A for DOS). Specify the database. If you already have security applied you will need to enter the User ID and password for a user with Admin rights; otherwise you are taken to the Security Menu. From this, select Assign Access Rights. Enter the user name "MANAGER" and press enter. You are taken to the Access Control screen for the user MANAGER. You'll see that the default password is "PASSWORD." You can overtype this with whatever you wish to use. For this user, leave all the access rights options set to Yes. It is particularly important that MANAGER can assign Access Rights. This elevates this user to the category of "Administrator." Only an Administrator can change security. Only an administrator can teach the Intelligent Assistant. And—this is the key— only an administrator can view reports which include a limited-access field.

Press F10 when done. You're asked if you want to edit another user. You do. Enter the next name. This can be the name of an individual user or a "group" of users who share the same name and user ID and password, such as "SALES" or "ACCOUNTS." Most people prefer to use personal IDs.

For our example database the next user is MARK. Mark needs an intermediate set of rights as in Figure 2.

Press F10 to save Mark. Now add another User, BETSY. Rather than give Betsy a password, just clear the default password, leaving it blank. This is a good way of applying limited security. Several users can share a User ID to log in to the database without having to remember passwords.

Of course, you can set up multiple users and give them various rights. Just be sure to write down all the User IDs and passwords of the ADMIN users—the ones with Assign Password rights. With one of these the rest can be looked up. For this reason, always have at least two Admins. Note that, mercifully, all Q&A User IDs and passwords are not case-sensitive.

Adding field level security

The next stage is to apply field-level security. To set up the very first user, go to File / Design / Secure a File. Specify the database and enter a User ID and password for a user with Admin rights, then select Field Level Security. For our exercise we only need to create a single field level security spec. Call it "All but Manager," as that is to whom it will apply.

At the Field Security Spec you will see a "W" in all fields. (See Figure 3 at the top of page 9.) This indicates that each field is read and write in this spec. You can change the "W" to a "R" for Read-only, or "N" for NO access. Put an "N" in the Private field. You can press F1 for further help at this screen. Press F10 to save when you're done.

```
              ALLREPTS.DTF   To Demonstrate "Private" Reports

     Title: Ms     Init: J C      Surname: Carruthers
  Position: Personnel Manager

     Add1 : 4th Floor
     Add2 : Chesham House
     Add3 : 150 Regent Street
     TOWN : London
   County :                        Postcode : W1R 5FA

        REF : 2246                  (Range = 2200 - 2735)

       Date : 06/21/2000           ×
       Type : HAT                  (Hat, Scarf or Gloves)
        Qty: 5                      (Range = 2 - 42)
  Sale Amount : $39.95             (Range = 0 - $120)

              × Dates range from 05/31/2000  (May 31st '00)
  PRIVATE :                        to 05/21/2001  (May 21st '01)
```

Figure 1. The sample ALLREPTS database with a "Private" Field.

```
                          ACCESS CONTROL

           Initial Password:  MARK

   Make the selections below to indicate what rights this person has:

      Can assign password rights?........:   Yes  ▶No◀

      Can change design and program?.....:   Yes  ▶No◀

      Can mass delete?...................:   Yes  ▶No◀

      Can delete individual records?.....:  ▶Yes◀  No

      Can run mass update?...............:   Yes  ▶No◀

      Can Design/Redesign reports?.......:  ▶Yes◀  No

      Can enter/edit data?...............:  ▶Yes◀  No

  ALL.DTF            Access Control Form for MARK
```
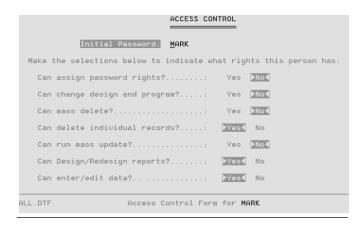
Figure 2. Access Control Form for user MARK.

Missing & Duplicate Records and Strange Search Behavior

JOHN T. DOW

AT the Q&A Users Conference 2001 in January, I demonstrated a little database that appeared healthy as far as Q&A was concerned, but which had a serious problem. The database had five records, but depending on how you access it, you might only see four of them. At other times you see all five.

I thought this was a rare problem, but on talking with a couple of people I discovered that they had seen it, too. After I started investigating in more depth how Q&A is affected by this type of corruption, it became apparent that it can lead to records that disappear and to records that become mysteriously duplicated.

I'm writing up this problem because it might be more prevalent than I thought and it can cause permanent loss of data.

My little demonstration database contained the following records. (In case you have a good memory and can recall in detail what I showed, I should point out that since the conference I added a record number field to better show what is happening.)

```
Record 1     Bush
Record 2     Gore
Record 3     Gore
Record 4     Buchanan
Record 5     Nobody
```

I deliberately introduced corruption into the second Gore record, but you can't tell this directly with Q&A. In fact, Q&A never gives the slightest clue that there's a problem. No error messages, ever.

First signs of trouble—retrieving records

1. Searching for all records with no sort will return the five records correctly.

2. Searching individually for Bush, Buchanan, or Nobody will return the correct record each time.

3. However, searching for all records and sorting on the candidate name field will result in the following incorrect display:

```
Record 4     Buchanan
Record 1     Bush
Record 2     Gore
```

```
Record 4     Buchanan
Record 5     Nobody
```

Notice that the second Buchanan record—taking the place of the corrupted Gore record—is out of place for Buchanan but in the correct sort order for a Gore record.

4. Searching for all records and sorting on the record number field will result in the following incorrect display:

```
Record 1     Bush
Record 2     Gore
Record 4     Buchanan
Record 4     Buchanan
Record 5     Nobody
```

5. Searching for Gore records will result in the following incorrect display as you press F10 three times:

```
Record 2     Gore
Record 3     Gore
Record 4     Buchanan
```

When you press F9 and F10 from now on, you will only see these two:

```
Record 2     Gore
Record 4     Buchanan
```

6. Searching for Gore records and sorting on the candidate name field will result in the following incorrect display:

```
Record 2     Gore
Record 4     Buchanan
```

Q&A Reports

Crosstab reports do not seem to be affected by this problem.

Columnar reports sorting on the candidate name treat the Buchanan record as a Gore record when it's sorted, counted, or totaled, but display Buchanan instead of Gore.

Columnar reports sorting on the record number treat the "3" and "4" records as different for sorting and counting, but display the "3 Gore" record as "4 Buchanan".

Q&A copying the database and exporting the data

If the database is copied, design first, records second, the "3 Gore" record disappears and the "4 Buchanan" record

is duplicated.

If you've done this and don't have the original database, it's too late. The various programs (see below) that can export the data correctly from the original database that has the corruption will all get the duplicate Buchanan because now it's really there.

If the records are exported using Q&A, the same thing happens. (A Gore is replaced with a Buchanan.) It doesn't matter whether you specify a sort or not.

QEXTRACT* exporting the data
The QEXTRACT program gets all five records right.

DTFDATA exporting the data
If you use a QAX file and tell it to select using the Candidate field and if the Candidate name field is speedy, DTFDATA makes the same error that Q&A does (substitutes a Buchanan for a Gore).

If the field is not speedy or you don't select on it, DTFDATA gets the five records correctly. To use DTFDATA to export the data from a corrupted CUSTOMER database, you would merely type this command:

```
DTFDATA CUSTOMER FORMAT=Q CUSTOMER.DAT
```

You do not need a QAX file to extract all the data.

DTFDOCTR exporting the data
The normal mode for exporting data records is to "scan" the database. This gets all five records correctly.

The two other modes for exporting data records are virtually never used. Depending on the version of DTFDOCTR, they may not even be functional.

Having said that, if you tell the latest version of DTFDOCTR to export using the DTF structure, it only gets four records. One of the Gore records is missing.

If you tell it to export using the IDX structure, it makes the same substitution mistake.

Conclusions
I have no idea what causes this type of corruption. As you can see from my description of the various retrieve/sort combinations, the various reports, copying the database

and exporting the records, Q&A almost always messes up.

I've seen this corruption with Q&A 5.0 databases but believe it can happen just as well with Q&A 4.0 databases. Whether you're using Q&A for DOS or for Windows probably makes no difference, but I don't really know. (All versions of Q&A, starting at least with version 3.0 for DOS, use identically the same internal structure for data records as far as I can determine. That means that theoretically they can all have this problem. It doesn't mean that they will all *show* it, because it depends not only on the structure of the file but also on the code in whichever Q&A you're using. I don't know what the code actually does.)

Doing a database Recover doesn't seem to make things any better or, for that matter, any worse.

To fix the database, you must export the data and reload it into a fresh copy of the database. You cannot fix it in place. You cannot use Q&A to copy the records.

The latest versions of DTFDOCTR recognize this particular problem and tell you to export the data using DTFDOCTR so you can reload it into a fresh database.

You absolutely do *not* want to use Q&A because it will make things worse.

You could use DTFDATA or DTFWIN if you have either. See above for the syntax.

QEXTRACT can be used with three cautions. First, it tends to omit several records, even from healthy databases. Second, it converts a quote (") to a prime ('). Third, if you have records with different generations, they'll come out as separate comma-delimited files and you'll have to figure out appropriate merge specs when you load the records into your fresh database. (All the other programs mentioned here, Q&A, DTFDOCTR, DTFDATA, and DTFWIN, are all smart enough to convert records to the current generation to avoid this problem.)

John Dow is the creator of a host of valuable utilities for all editions of Q&A, including DTFDATA, DTFDOCTR and DTFTALK. He is also a principal of Lantica Software, LLC. jtd@pgh.net, www.johntdow.com, 412-973-9473.

* QEXTRACT can be downloaded from the Downloads page at www.quickanswer.com

---

Quick **Tip** # Add a Little Zip to Your Necromancing!

Sure, DOS is dead. Every platitude at happy-hour confirms it. So why bother with yet another time- and labor-saving, accuracy-enhancing add-on? Well, because some of us still have to eat and Q&A remains the tool most suitable to that end.

Much of my own Q&A usage entails maintaining new

prospect, sales rep, and customer databases. Just filling the city, state, zip code and area code fields alone can take 30 keystrokes per record, all without any assurance of accuracy or spelling consistency.

Reference to a clever little TSR (Terminate-and Stay

@Help

EDITED BY WILLIAM HALPERN

Fill Keyword Fields with Pick-lists

I use several Keyword fields containing multiple codes separated by semicolons. I would love to use pick-lists to fill my Keyword fields, but when I do, the selected entry erases the existing Keywords in that field. For example, if the field is named **Issues** and someone is interested in TRN (Transportation) and ENV (Environment), I can manually type in both (TRN;ENV). But if TRN is already there and I use the pick-list to add ENV, it will erase TRN and replace it with ENV. Is what I want to do possible? If so, how do I set it up? And will this feature be available in Sesame?

Lissa Zanville

The answer to your question is, "Of course Q&A can do that!" I will assume you're using Q&A 5.0 since not too many people create pick-lists in Q&A 4.0. (You can create pick-lists in Q&A 4.0, albeit less elegantly, using the Restrict Spec.) An easy way to get the functionality you need involves the following program (File / Design / Program / Program form in Q&A for DOS) in the Keyword field, named **Codes** in this example:

```
< Codes = Codes + ";" +
 @Usl("CCV,TRN,ENV,BBR,OBC,DDM");
  If @Left(Codes, 1) = ";" Then
  Codes = @Mid(Codes, 2, 5000);
  Codes = @Replace(Codes, ";;", ";");
  CPrev
```

A more sophisticated system—requiring a second field to temporarily store the pick-list—can give you added benefits. Assume the new field is #150 in the Program Spec and the existing Keywords field is #155:

```
<#150: If #150 = ""  Then
{ Usl(" —  Issues  —;" +
@Insert("Issues.txt"), #150) };
If #150 = "—  Issues  —" then { #150 = "";
goto #150 };
goto #155
```

Issues.txt is an ASCII text file or QA Write document in the default Q&A program files directory that contains the complete list of Issue codes, each separated by a semicolon. By using a separate codes file, you can update it at any time in Write without having to go into to the Program Spec. This way, with a shared database, you won't have to kick everyone out of it to change your list:

```
<#155: If #150<>"" then { #155 = #155 + #150 +
";";
#155 = @Replace(#155,"
","");
#155 = @Replace(#155, " ;", "; ");
#150 = ""; goto #150 }
Else goto #153;
Rem("Where you want to be when finished with the
list")
```

This program appends the code selected in #150 to the Keywords string already in #155 (and adds a semicolon in preparation for the next Keyword entry). It then replaces any carriage returns in the string with nothing. Be careful when typing this program: the end of the first line of the first @Replace is a quote mark, followed by an Enter keypress, followed (on the next line) by the closing quote mark. The next @Replace replaces "space semicolon" with "semicolon space. Then, #150 is blanked and control returns to #150 for another selection. When you're done adding codes, simply press Esc to make no entry in #150. When the cursor goes to #155, #150 is blank, and #155 says Goto #153 or wherever you want to go.

If you are using Q&A 4.0, the new field (#150) won't support all the programming because there is no Usl (Userselect) or @Insert command. You will have to create your pick-list in the Restrict Values Spec and "pop-up" the list in that field by pressing Alt-F7. So for Q&A 4.0, program the new field this way:

```
>#150: Goto #155
```

The same programming as in the Q&A 5.0 example above the Keyword field, #155, will either add the item in #150 to the list and return you to #150, or go on to #153 if you leave #150 empty.

Will this same feature be available in "Sesame"? Absolutely!

Printing Problems—Again

We have been using Q&A 4.0 for DOS for a number of years now and have not found any other program that compares to it. Any problems we have had have been minor and were resolved quickly. Our current problem, though, has us stumped. When the PC is first booted and we try to print from a document or database we get the following message.

```
"invalid page exception"
"Fault location:  0028:01D2"
```

If we try to print again without rebooting we do not get this error. If we are trying to print a database record and get this error, when we go back to this record we get the Q&A message saying that the record is being edited. In order to be able to edit this record we have to restart the computer.

We've been working around this problem by trying to print a record for an old database when we first boot up. This only occurs when we try to print to a printer connected to LPT1. If we are printing to a network printer we do not get an error. We've noticed as well that this computer will not restart in DOS mode. We are running Q&A in Windows 98 Second Edition, on a Pentium 200 with 32Mb of ram. Please let me know if there is a solution.

<div align="right">Abbie</div>

I think that you will find that this problem is solved just like the printing problems that we addressed in March's @Help column. Your printer is not awake and is not sending it's state back to Windows in time for DOS printing. (DOS programs don't like to wait very long.) The next time you try, the printer is awake and all is fine. What you have to try doing is go into the Printer's properties from the Windows Settings menu and the click on the "Port Settings" tab on the detail screen. Uncheck both *Spool MS DOS...* and *Check port state...*. The problem should go away. The clue here is that you are not getting the error with network printing, only on your local PC's spool.

Q&A 5.0 Slow on New Machines

We've received several emails and calls about Q&A running slow on new PCs. We've even seen the same thing at our own clients' sites. In every case, the culprit has not been Q&A but rather the combination of Norton Anti-Virus and DOS 16 bit programs running at the same time. Our normal solution is to make sure that background anti-virus scanning is disabled with only automatic email protection enabled. For most users this is sufficient since the only source of viruses on a well-managed business network will be email. We also tell clients that they should *always* right-click on any floppy disk they insert in their computer (in Windows Explorer or My Computer) and select *Scan with Norton Anti-Virus* before copying or opening any files on it. Perhaps not the most elegant solution, but it works and your computer will be faster without Norton running in the background.

But some of you will say: "I need to run my anti-virus program all the time!" For you, we checked Symantec's Web site and found a wealth of information. We've taken the liberty of reprinting some of it below. Be aware that neither we nor Symantec are guaranteeing that these solutions will work on your system, but they are worth trying if you absolutely must run Norton Anti-Virus in the active protection mode.

From Symantec's Web Site:
"How to configure Windows 95/98 for optimal use of system resources"

System settings in the Config.sys file
Settings in the Config.sys file can sometimes be configured incorrectly when programs—particularly older Windows or DOS programs—are installed. If they are not set correctly, then they may be limited by Windows default settings. Follow these steps to ensure that the Config.sys file is optimized:

1. Click Start, and then click Run.

2. Type *sysedit* and then click OK. The System Configuration Editor opens.

3. Click the Window menu, and then click C:\CONFIG.SYS.

4. Scroll down, if necessary, and look for a line that starts with FILES=. If one does not exist, enter it according to these guidelines:

    If the computer is not on a network, or if it is on a network with less than ten other computers, then type the following and then press Enter:

    ```
    FILES=200
    ```

    If the computer is on a network with ten or more other computers, then type the following and then press Enter:

    ```
    FILES=250
    ```

    Look for a line that starts with BUFFERS=. Change it, or if it does not exist, then add it, so that it matches the following, and then press Enter:

    ```
    BUFFERS=80,0
    ```

5. Look for a line that starts with STACKS=. Change it, or if it does not exist, then add it, so that it matches the following, and then press Enter:

    ```
    STACKS=12,256
    ```

A No-Nonsense Approach to Validating Data

ALEC MULVEY

Q&A has a wealth of features to ensure that the data users enter is correct. To make sure the data is *completely* correct, though, can be very demanding. You might have to put into place programming that checks this field against that one, throwing up a warning if this value exceeds that one, and preventing users continuing if an entry creates a conflicting situation. If you've ever had to put this in place you will know that it can get very complicated. Once you start setting up these controls you find you can't stop. And one set of rules can conflict with another under certain circumstances. Later, the client thinks of still more situations where there can be exceptions. Finally, when the application goes live, further, unforeseen scenarios emerge and you're back to patching up that tangled web of data entry rules.

Fortunately, there is an alternative.

Instead of putting this huge effort into *preventing* incorrect data, it is often adequate to put a very much smaller effort into creating the means to *detect* it. By this, I mean reports or Retrieve Specs that flag these anomalies. Let me give you some examples taken from my own accounts system.

Like all good Q&A'ers, I track my own accounts in Q&A. It does just what I want it to do, no more and no less. Sales invoices and purchase invoices are processed on entry, and multi-department invoices are easily processed by a field that shows the balance still to be allocated. Clearly, this should be nil. I don't have programming to check for this, I rely on common sense. However, an error only becomes important when I need to fill in periodic returns and send money to the government. It is at this stage that I use a saved Retrieve Spec to look for records where the unallocated amount is not zero. The search should produce a "*No records were found that meet your retrieve request*" message. If it does find records, then I can do something about it then and there. This simple search is just one of about a dozen searches I perform before I run off my reports and write my cheque. Here are some others:

- Credit note but invoice amount is positive.

- The converse: negative amount but not a credit note.

- One field (#3) should be the sum of two others (#1, #2):

  Any Field: `{ @ABS(#3 - (#1 + #2)) > 0.01}`

- Date paid (#2) earlier than invoice date (#1) for any invoice.

- Date paid more than 60 days after invoice date:

  Any field: `{@ABS(#1 - #2) > 60}`

- Tax zero but tax code is not zero

- Missing information: "=" in all fields that should not be blank and set Search Options to "Any of the Restrictions" at the Ctrl-F7 Search Options dialog.

Figure 1 shows the list of Retrieve Specs in my purchase ledger database:

Now you might be thinking that you could put together an elegant strategy for avoiding 10 or more separate retrieves, but that is missing the point. What I am suggesting might be called an "Engineering Solution"— "let's not mess around trying to be clever: just run each of these saved retrieves once a month, quarter, year or whenever."

It'll take just a few minutes to do—and won't take hours to set up. And you can easily add another saved Retrieve when you come across another error situation you hadn't foreseen.

When data just *has* to be right, *right now* (like before issuing a sales invoice), that's another matter. Then you're back to programming, restricted values, conditional navigation and the like to strictly enforce correct data entry.

```
                    LIST OF RETRIEVE SPECS IN DATABASE

*ErrCheck 10-Type of Sale error
*ErrCheck 8-Paid in the future
*ErrCheck 9-Likely wrong VAT
*ErrorCheck 1 -positive CR
*ErrorCheck 2- Net amount error
*ErrorCheck 3- Zero VAT error
*ErrorCheck 4- VAT code error
*ErrorCheck 5 -negative not CR
*ErrorCheck 6-Date Paid excess.
*ErrorCheck 7- MissingVitalInfo
Direct Costs 00/01
temp
Unpaid
```

Figure 1. List of saved error-checking Retrieve Specs.

```
       REF : W                        (Range = 2200 - 2735)

      Date : W                        *
      Type : W                        (Hat, Scarf or Gloves)
       Qty: W                         (Range = 2 - 42)
Sale Amount : W                       (Range = 0 - $120)


               * Dates range from 03/01/2000  (March 1st '00)
PRIVATE : N_                       to 02/19/2001  (Feb 19th '01)


ALL.DTF                   Field Security Spec All but Manager
```

Figure 3. A Field Security Spec that restricts access to "Private" field.

When you press F10 to save the Field Security Spec, you are taken to a very blank-looking screen that lists the users assigned to this Field Security Spec. Of course, there aren't any right now. Press Alt-F7 and Q&A displays a list of users *who are not administrators.* As you select a user they disappear from the picklist. You can select Betsy, then Mark. Press F10 to save. If you now select again Assign


```
                    LIST OF REPORTS IN DATABASE


Avg price Scarf sales
Sales of Gloves
Sales of Scarves
Simple Customer List
X - Sales by Product / Month
X - Sales Last 6 months
```

Figure 4. Report list with crosstab reports, before using the "Private" field.

Access Rights and browse the list of users, you should notice that Q&A displays, on the status line, the Field Security Spec, if any, assigned to that user. This is a useful way of quickly checking that all the users you want to have limited rights.

Designing the private reports

Now create your reports. The first sample database, ALLREPTS.dtf, shows the report list in Figure 4 *regardless of who the user is.*

Now everything is in place to make some reports "Invisible." In my 1994 article I told you to include a private field in the Column/Sort spec and to make it invisible using the "I" code. This is less easy to do in a crosstab report. Luckily, there's an easier way. Simply include the Private field in the Retrieve Spec.

If it's a real field with real data, put = ; /= in it, to indicate blank *or* non-blank entries. That way it's included in the Retrieve Spec but not doing anything. Either way, you'll find that the Private reports are no longer listed when you log on as BETSY or MARK. (See Figure 5.) To see this, view the PRIVREPT.DTF database. The User ID and Password for both databases are MANAGER / MANAGER.

Press Shift-F6 to clear the User ID and password. Print the reports having logged on as MANAGER. Then Press Shift-F6 to clear the User ID and password. Log on now as Betsy or Mark and you'll see the crosstab reports are not listed. Even if you type the name of the report, all you'll get is the message "This report is reserved by the Administrator."

Something important to watch with this technique is this…

New users are not automatically added to the field security spec. This means that every time you add a non-admin user of group, you need to remember to assign them to the Field Security Spec. If you forget, then, regardless of their limited access rights, they can see the "private" reports.

Alec Mulvey is a director of Lantica LLC, and also owns Keyword Training & Consultancy in Ascot, near London, England. He has been building Q&A applications and training clients for 11 years and in that time has learned more than it is either desirable or healthy to learn about Q&A searching. Keyword Training is the UK distributor for the International English edition of Q&A and John Dow's Utilities. Fax +44-1344-884-111, alec@keywordtraining.com, www.keywordtraining.com.


```
                          LIST OF REPORTS

Avg price Scarf sales
Sales of Gloves
Sales of Scarves
Simple Customer List
```

Figure 5. Shortened Report list by including the Private field (as viewed by users Mark & Betsy)

Sesame Seeds — What Does 'Client-Server' Mean?

This regular Quick Answer *column is designed to help you better prepare for the new Q&A-compatible database manager (cone-named "Sesame") coming from Lantica Software, LLC.*

Q&A is a "client-based" database while Sesame is "client-server-based." But what does this mean to someone who's now using Q&A and is contemplating a migration to the coming database product from Lantica Software?

In a nutshell, with Q&A—even in a network environment—all the work is done in the memory and by the processor of the workstation that initiated the action (such as a record search). The computer where the database resides is strictly a "warehouse" or storage area for the data—a place from where any user can access the same information.

The result of this arrangement is that if you want high performance, you need powerful computers at both the server and client ends—at the server end to provide the data to all the users with reasonable speed; at the client end to process the information at a reasonable speed. This means higher hardware maintenance and upgrade costs. With different types of client PCs, you'll see significant performance differences with Q&A from workstation to workstation.

Okay, so you've spent the money and you have powerful computers at all your workstations. What's the big deal? Well, suppose you're away from the office. You want to dial in to your server and access your 100,000 record database over a telephone line. With a "client-based" system like Q&A, in order to perform a search, all 100,000 records must be brought across your 56K phone line before the search can begin—even if you only want to see one record! So, you are relegated to using a program like PC-Anywhere to access your system. This means that a computer at the office must be dedicated to receiving your remote call and acting as the client. It then passes only the screen updates of the result set across the phone line.

What does the Sesame's client-server system do in the same circumstances? In the first place, all processing is done on the server and in the server's memory. The client acts almost like a dumb terminal. It does not need extensive processing power or lots of memory. It only needs the ability to send instructions to the server and display the resulting data. This means that you can have an entire office of low-cost, minimal performance client computers and still access extremely large and complex databases from any of them with essentially no difference in performance.

You do have to make sure that the server has enough power and memory to access the data and perform the instructions, but one vs. many powerful computers means substantial hardware savings. For remote access, all you need is a computer that can dial-in to your network. The processing is done at the office. The results are displayed on the remote computer. No additional software. No need for high-speed connections.

That said, what about the user who wants to run Sesame on a stand-alone computer? What special considerations are there for a client-server based system? None! Sesame installs on a stand-alone computer just like Q&A does. One program. One installation. No special setup required. Sesame makes the stand-alone PC act as both the client and the server without requiring any user intervention. If Q&A can run on a given stand-alone computer, Sesame will run on the same PC with essentially equal performance. And what's more, remote access to that stand-alone computer can be accomplished just as if it were a fully configured network system.

ZIPKEY...

Resident) utility called ZIPKEY reviewed in *The Quick Answer* many moons ago (October 1992 to be exact) that expedites the aforementioned.

By typing a 5-digit zip and pressing a user-defined hot key, ZIPKEY fills the city, state and area code fields—a savings of 25 strokes per record.

Can't read a hand-written zip code? Press a different user-defined hot key for an active pop-up that lets you search by two-letter-state abbreviation, then by city, then by area code or "?" for a drill-down list of cities.

Need to find or confirm the correct spelling of a city name while working in Q&A Write? Ditto above.

Like to avoid playing telephone tag by knowing the correct time in a different time zone? Press the same hot key and type the zip.

To get all this capability, we simply installed ZIPKEY into our Q&A-resident directory and followed the options offered by the install routine.

ZIPKEY (including both DOS and Windows versions plus a manual) costs $30, with updates at $25. Point your browser to eric@eji.com for full details and ordering information.

Then give the old hide one last jab.

Walt Strasser owns the Center for Strategic Communication, a Los Angeles advertising, marketing and public relations firm founded in 1991. He can be reached at 310-573-4381.

6. Make sure that the following line exists; if it does not, then add it as shown:

```
DEVICE=C:\WINDOWS\HIMEM.SYS /M:1
```

The /M:1 switch commands Himem.sys to identify the processor.

7. Close the Config.sys file, and save the changes when prompted.

System settings in the System.ini file

The System.ini file is another place where configuration settings can affect how your system performs. Please follow the instructions in each section to ensure that the System.ini file is optimized.

Real Mode (16-bit) drivers

This is most frequently seen on computers that have been upgraded from older operating systems. In this case, the System.ini file may contain references to old 16-bit drivers that can cause problems with newer, 32-bit programs. Follow these steps to remove these 16-bit drivers:

1. Use Sysedit to review the SYSTEM.INI file

2. Click the Search menu, and then click Find.

3. Type *386enh* in the Find box, and then click Next.

   You should see [386enh] selected. (You may have to scroll down to see it.) On the lines following this, look for text that begins with device=. If any line that begins with device= does not have an asterisk (*) directly following the equals (=) sign, type a semicolon (;) and a space at the beginning of the line. This is called "commenting out" the line, and it will prevent Windows from loading that driver. (It also enables you to re-enable them in the future by simply reversing the steps.)

4. Click the File menu, and then click Save to save your changes. Close the System.ini file, or, (recommended), go on to the next section.

Hard drive caching

In general, Windows 95/98 takes care of the hard drive cache on its own. However, if a program has made changes to this setting, or if you simply want to be sure it is being handled correctly, please follow these steps to check, and if necessary, change these settings:

1. With the System.ini file open, click the Search menu, and then click Find.

2. Type *vcache* in the Find box, and then click Next. You should see [vcache] selected. (You may have to scroll down to see it.)

3. In the [vcache] section, look for the following:

```
[vcache]
Minfilecache=512
Maxfilecache=6144
Chunksize=512
```

If these lines do not exist, then add them exactly as shown.
   If they do exist, but the numbers are not the same values as shown, then change the numbers so that they do match the values shown.

4. Close the System.ini file, and save the changes when prompted.

System settings in the Win.ini file

In some cases, 16-bit programs can also load from the Win.ini file. Follow these steps to check this:

1. In the [Windows] section, look for lines that start with load= and run=.

2. If there is anything following load= or run=, comment out these lines with semicolons.

3. Close the Win.ini file and save the changes.

4. System settings in the Autoexec.bat file

5. In the Sysedit program select the Autoexec.bat

6. Check for, and if necessary, add the following line:

```
SET DOS16M=2
```

This line should be added as the first line before any other lines in the Autoexec.bat file. Its function is to extend memory in DOS for strings of information over 64 characters in length.

7. Close the Autoexec.bat file and save the changes.

   Some programs run slowly on Windows NT when Auto-Protect is enabled

Situation:
You are running Norton AntiVirus (NAV) under Windows NT and have Auto-Protect enabled as is recommended. You notice that some of your programs run very slowly, especially over the network. If you disable Auto-Protect, then they run much faster.

Solution:
What you will need to do depends on your version of NAV for Windows NT. Please see the section that applies to your situation.

NAV 4.03
If you are using NAV 4.0.3, download the listed files from the Symantec web site. Move the existing version of Navap.sys to a safe location, and then copy these files to the \Navnt folder. Double-click Ap_fast.reg to make applications operate faster over the network. Double-click Ap_norm.reg to return your system to normal.

NAV 4.04 or later versions of NAV 4.0
The Navap.sys file is a standard part of the installation. The files Apntfast.reg and Apntnorm.reg are located in the \Navnt folder. Double-click Apntfast.reg to make applications operate faster over the network. Double-click Apntnorm.reg to return your system to normal.

NAV 5.0
In the \Navnt folder, locate and double-click the Apntpon.reg file. This sets FastCacheResetTimeout to 5000 milliseconds. If this does not help, use either Ap9xpoff.reg or Apntpoff.reg to revert to the default settings.

NAV 2000/2001
In the \Navnt folder, locate and double-click the Apntfast.reg file."

Results will vary from system to system. If a certain set of the above steps work for you, please let us know the specific machine, operating system, version of Q&A, and version of NAV so that we can pass on the information to the rest of our readers.

Bill Halpern is co-owner of Professional Computer Technology Associates (PCTA) in Newtown, Pennsylvania and is President and CEO of Lantica Software, LLC. 215-598-8440. bill@pcta-usa.com, www.pcta-usa.com.

MARBLE
PUBLICATIONS
1927A Harbor Blvd #389
Costa Mesa, CA 92627 USA

May 2001 Issue

First Class