

Storing Contact Notes Internally and Externally



TOM MARCELLUS

DOS

NOTES or comments are essential to many kinds of database applications. Take a client or prospect database. You might want to track the contacts you've made with each person or company in a **Notes** field. Each time you speak with someone at the company or send (and receive) a letter, email or fax relating to them, you might want to write a brief note with the date that summarizes the event. This way, you have a running record of all the events leading to some result, such as a big order or a new contract. At the very least, you have a history on this client or prospect (or case) that can tell you what occurred and when.

The question that can arise in an application like this is: where do you store your ongoing notes or comments?

You can stuff a lot of data into a Q&A database text field—up to about 32K, the equivalent of some 450 lines or 8-10 pages of text. While this might be more than adequate for the volume of notes you might amass on 98% of your contacts, there might be instances, such as long, drawn-out contract negotiations, when the volume of notes you need to store in a database record exceeds the capacity of your **Notes** field. If this happens, Q&A won't let you save the record until you've deleted some notes.

There might also be the issue of how to actually go about adding new notes to a **Notes** field. You want to automate this as much as possible so that, for example, Q&A will automatically add the current date to a new note for you and insert it at the beginning of the **Notes** field, saving you from having to press F6 to expand the field, turn insert on, type the date before typing your note, then close the expanded field when you've finished the note.

I'll show you a couple of different ways to resolve these issues. First, if you want to store your notes in the database records, you'll find out how to automate the process of adding new notes to a **Notes** field. The technique I'll describe will use the Pop-up Mini-form utility that comes with the Lantica Utilities Pack. (See last month's front-page article. Visit www.lantica.com for information on ordering the Pack.) With this technique, you'll simply enter a "Y" in an **Add Note** field. This will cause a mini-form—containing a field to type the text of your new note—to pop-up over your database record. (See Figure 2 on page 4.) When you close the mini-form, Q&A will add a date stamp to the note and insert it at the beginning of the **Notes** field, so that your notes will always be in descending chronological order with most recent note at the beginning.

This note-making system will incorporate a few other gizmos as well. When you add a new note, Q&A will tell you what percentage of the total capacity of the **Notes** field your existing notes consume. This is like working in Q&A Write (or in an expanded field), where Q&A tells you at the bottom of the screen what percentage of the total capacity the current amount of text consumes. This enables you to see when you're approaching the **Notes** field limit for the record and need to do something about it.

The feature goes a couple of steps further. As the sum of all your notes for a record approaches the limit of the **Notes** field, you'll receive a rather intrusive danger warning. And if the current note causes the field to exceed its limit, you'll receive a message to that effect and will be prevented from

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adding the new note until you've reduced the existing notes to the necessary degree.

This is the first approach I'll show you—storing your notes in the database.

The second approach is for those who prefer to store their notes *outside* of the database as long as they have an equally convenient means of viewing and adding them. This approach is ideal where the quantity and length of the notes is simply too great to risk storing them in the database.

(Storing volumes of notes in a database is a bit like storing pictures in a database. Q&A 5.0 enables you to store

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Quick Tip

Treatment for Date Fields that Sometimes Aren't

No matter how hard you rail against it, users will still blow off that big red warning box and leave "TBD" or "Nov 99" in a date field. By shoehorning non-date text into a date field, they're just asking for trouble whenever that violated date field is involved in a report, search or other operation.

Sometimes, though, you have to live with the occasional text in a date field and work around it as best you can. I had a situation like this involving a report. Fortunately, a relatively simple "fix" got it producing the right answers without having to "clean up" the errant date field in scores of records and throw users into a tizzy.

In this case, it was a **Discharge Date** field, the date the patient was discharged from a hospital. It was important to users that this field occasionally contain "In House."

The text-in-a-date-field problem cropped up when the supervisor tried designing a custom report for one of her clients that owned several hospitals. It had to list the patient's name, followed by the number of days since their discharge date. It also had to calculate the *average* number of days since the discharge date for each hospital, then the same overall average for the report as a whole.

The following Derived Column formula, where #30 was the **Discharge Date** field, calculated the elapsed days:

```
@Date - #30
```

Of course the report wiggled out on the subaverage and overall average calcs due to some records containing "In House" in that **Discharge Date** field. Those records still had to be in the report, though, so we couldn't eliminate them in the Retrieve Spec. The trick was to prevent the

"calcs" on just those records from gumming up the works so the sub and grand calcs would be correct for the others. We replaced the formula with this one:

```
@Text(@Left(#30, 1) = "2", @Date - #30)
```

This @Text function says: *If the first character in the **Discharge Date** field is "2," then perform the calculation with it; otherwise, don't.* The condition would be false for all records containing "In House" (and any value not beginning with "2") in the field, and true for all others, since any valid date would begin with "2" (the year of the discharge date). Nobody was concerned that the "fix" would only be good for 998 more years.

—Tom Marcellus

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Quick Tip

Obscure Yet Vital Programming Switches

Tucked away in a dusty corner of Q&A (all editions from 4.0), there is a setting that affects all the programming in a database. Yet it is so little considered that a major luminary in the Q&A community (mentioning no names) was until just recently unsure about what it did.

That setting is: *Main Program Before Field Exit*. It's on the same dialog as the *Automatic / Manual* calculation programming setting (see page 12)—all very well, as they go together. The trouble is—and this is hard to fathom—these options are not accessible in the Program Spec where they belong, but by pressing Shift-F8 when adding or

viewing a record! This is pretty unsatisfactory, as these potentially crucial settings are not then protected by normal password security or the database lock. Any user can change them! I can only guess that these features were added in later versions of Q&A and were "bolted on" where convenient.

The APT manual for Q&A for DOS states: "... *By default, when you alter a field value and exit a field, the calc (or main) programming is executed before the on-field-exit statement.*" This would correspond to a setting of "Yes" in the Calc options dialog. But I have found this *not* to

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image files in your database. But doing so can severely bloat the database and make it sluggish, difficult to manage, and more corruption-prone. In the case of images, it's usually best to store them *externally*, and simply store path and filename links to them in the database records. The *Image Utilities* featured in last month's issue give you a cool way to do this.)

With the external notes approach, the "system" will store your notes for you in a separate automatically-created document file for each client or prospect. When you want to view your notes and optionally add a new one, you'll enter a "Y" in an **Add/View Notes** field and the system will find and display the linked notes document for you right over your database record. (See Figure 3 on page 8.) If a notes file for a particular client or prospect doesn't yet exist, the system will create one for you and display the blank document for you to add your first note. Either way, when you save and close the notes document, you'll be right back in your database record.

Note that this second technique can also link your Q&A records to external worksheets—Excel worksheets, for example—instead of documents. This way, when viewing or updating a customer's record, you can pop up the worksheet for that customer, make whatever updates you want to it (or perhaps just get some information on previous orders), close the worksheet when you're done, and be right back in the customer's record.

The two techniques presented here are designed for Q&A 5.0 for DOS. However, the second of the two (storing your notes externally) can be adapted for use in Q&A 4.0 for DOS. With the additional required elements in place in Q&A 4.0, adding and viewing your notes will be just as easy as with the Q&A 5.0 technique. See the "What About Q&A 4.0?" section at the end of this article.

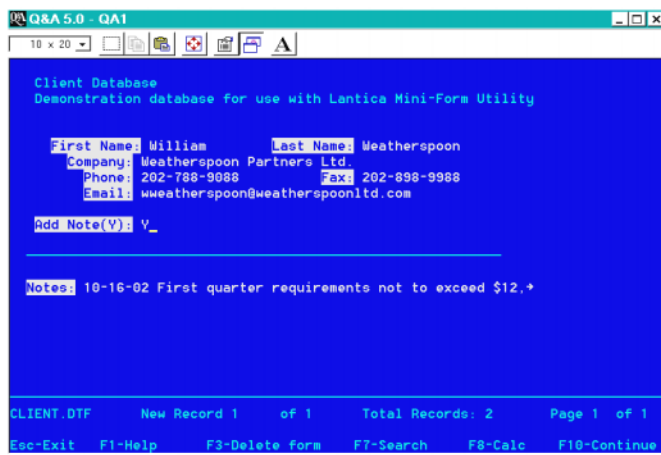


Figure 1. A client database with fields for adding and storing notes.

These two techniques are by no means the "last word" on notes fields in databases. There are a host of variations on these approaches as well as entirely different approaches (such as storing just the notes in a separate notes database). I'm illustrating these two to give you an idea of some of the options you have and to show you a few tricks that you might find useful for notes or related applications.

Storing your notes in the database

Figure 1 shows a rudimentary CLIENT.DTF database I'll use for illustration. The two pertinent fields here are **Add Note(Y)** and **Notes**. The actual field name for the **Add Note(Y)** field is **Add Note**, which is set at the *File / Design a File / Program a File / Set Field Names* screen. The only programming in this database is in this **Add Note** field. Here it is, followed by an explanation:

```
> If Add Note <> "" and Add Note <> "Y" Then {
@Msg("Enter 'Y' in the Add Note field to Add a new
note.");
Clear(Add Note);
STOP;
};

If Add Note = "Y" Then {
@Msg(@Shell("c:\lanutils\lanmform.exe"
+ " c:\lanutils\forms\noteform.txt"
+ " c:\windows\temp\note.txt"));
@Msgbox("Adding Note for",Company," ");
Add Note = @Insert("c:\windows\temp\note.txt");

If @Len(Add Note) > 10 Then {

If @Len(Notes) > 30000 Then {
@Msgbox(" ", "Notes field at capacity.", "Cannot
add new note.");
Clear(Add Note);
STOP
};

Notes = @Str(@Month(@Date)) + "-" +
@Str(@DOM(@Date)) + "-" +
@Right(@Year(@Date), 2) + " " + @Str(Add Note) + "
" + Notes;

If @Len(Notes) < 25000 Then
@Msg("Notes field contains " +
@Str(@Round(@Len(Notes) / 30000 * 100, 2))
+ "% of maximum 16K capacity.")
Else
@Msgbox("Notes field
contains",@Str(@Round(@Len(Notes) / 30000 * 100,
2)) + "% of maximum 30K capacity."),"OVERFILL
DANGER!")
}
};
Clear(Add Note)
```

Add Note is a text field. Q&A will use it to temporarily store a new note before adding it to the **Notes** field. This way, you don't need an extra field in the database to store the temporary value. **Add Note** must be a text field (not a Yes/No field). Otherwise, it won't concatenate (combine) properly with existing notes.

The program begins by checking to see that **Add Note** contains a “Y” (for “yes—add a new note”). If the field contains anything else, it is cleared and the program stops at that point.

The next statement is an @Shell that calls lanmform.exe (the Pop-up Mini-Form executable) with two parameters: (1) the name of the text file that controls the layout and fonts for the mini-form (more on which later) and (2) the name of the file where the mini-form is to temporarily save the new note. In this case the layout file is noteform.txt and the output filename is note.txt. Your paths will probably be different.

I like to place my @Shells inside of the @Msg command. This way, I don’t have to worry about having a field to store @Shell’s return value.

When this @Shell program is invoked, the “New Note” mini-form will appear over your database record. (See Figure 2.) You must be running Q&A in a window for this to work.

The next programming statement, the @Msgbox command, shouldn’t be necessary, but it might be depending on your system and preferences.

On a Windows 98 PC with *Always Suspend* unchecked in the Q&A shortcut’s *Misc* properties, the @Insert command on the line following the @Shell command will begin to run before you’ve entered your new note and closed the mini-form. This will generate a “File in Use...” error message on the output file. In other words, you’ve supplied *note.txt* as a parameter to lanmform.exe while at (almost) the same time, you’re telling Q&A to @Insert the same file which lanmform.exe has laid claim to. This produces a conflict that Q&A regards as a “file in use” problem. Now, if you checkmark your shortcut’s *Always*

Suspend box, you won’t need the @Msgbox at this point in the program, but your database record will turn into an unsightly black box (literally) until you’ve closed the mini-form. So take your pick.

On Windows 2000 or XP PCs, this might not be the case, but I was unable to test the application in those operating systems. Then again, with a Windows 2000 or XP machine, you might not be able to use the @Shell *at all* to run lanmform.exe with the parameters, but may instead have to place the equivalent commands in a batch file and use the @Shell strictly to call the batch file. In this case, the revised @Shell program might look something like this:

```
@Msg(@Shell("lanmform.bat"));
```

And the Lanmform.bat batch file (a single command all on one line) might look like this:

```
c:\lanutils\lanmform.exe
c:\lanutils\forms\noteform.txt
c:\windows\temp\note.txt
```

The next programming statement inserts the note.txt file in the **Add Note** field, overwriting the “Y” you entered earlier. If the note is less than 11 characters, it is not added to the **Notes** field and the balance of the programming doesn’t execute except for the final Clear() command. (The “> 10” is an arbitrary make/break point for adding a note. You should require some reasonable minimum number of characters in a note before you permit it to be added to the **Notes** field.)

Assuming the new note is at least 11 characters, the programming next gets the length of the **Notes** field value. If it exceeds 30,000 (approximately 30K), you’ll get a message telling you that the field is at capacity and the new note won’t be added to it. Programming will halt.

Otherwise, the current date (formatted so that Q&A treats it as a text value) is added to the beginning of the new note and the new note is inserted at the beginning of the **Notes** field. When that’s been done, Q&A will tell you the percentage of the capacity of the **Notes** field that has now been filled. If that percentage exceeds about 95%, you’ll get a “Danger!” warning in the form of a pop-up message box.

(A Q&A database field is supposed to be able to store up to 32K of data, with a maximum record size of 32K also. In practice, it works out to something less than this on most PCs. Available memory probably plays a role. Before setting your maximums, you should run tests on your PCs. Be conservative in the amount of data you permit your **Notes** field to contain.)

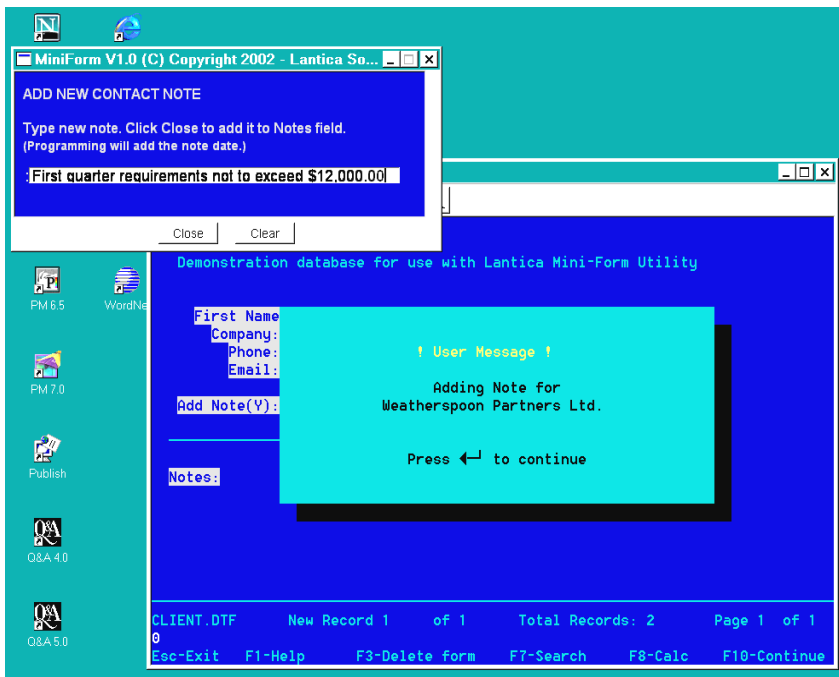


Figure 2. The “New Note” mini-form displays over your database record.

The min-form layout file

Earlier, I mentioned the layout file that the mini-form uses to create the pop-up field into which you type your new note. (See Figure 2.) In this example, it's named `noteform.txt` and it looks like this when opened in any text editor (Q&A Write, Notepad, Wordpad):

```
500
200
100
~[BACK 0,0,168]
~[FT 1]~[FS 16]
~[BG 0,0,168]~[FG 168,168,168]
~[FFG 0,0,0]~[FBG 255,255,255]

ADD NEW CONTACT NOTE

Type new note. Click Close to add to Notes field.
~[FS 14](Programming will add the note date.)
~[FS 18]~[FT 0]
:
```

The readme file that comes with the Pop-up Mini-Form explains what all this gobbledogook means. In a nutshell, the first three lines spell out the Pop-Up Mini-Form's width and height and the width of the form containing the input field. The other codes assign colors and fonts to the various screen elements (the fixed text and input field). The combination above generates a mini-form whose colors are (more-or-less) consistent with Q&A's default color scheme.

This completes our look at storing notes in the database. Now let's take up storing your notes in external files.

Storing notes in external documents

The second technique involves storing your notes in separate files that are linked to the clients' or prospects' database records. This approach has the dual advantage of supporting a virtually unlimited volume of notes for any linked database record, and keeping the database free of notes storage and thus trim and agile. Plus, it's just a slicker and, to me, easier way to compose—and, when necessary, *to print*—my notes.

You'll use a batch file in this case because you'll need a way to *create* a new notes file for a client if one doesn't already exist, while simply displaying the notes file for viewing and editing once the external file has been created. When a new notes file needs to be created for (and linked to) a client's or prospect's database record, the batch file will do so then immediately open it for you to add your first note.

Here's what the batch file (Makefile.bat) looks like:

```
If NOT EXIST c:\lanutils\docs\%1 GOTO MAKEFILE
If EXIST c:\lanutils\docs\%1 GOTO OPENFILE

:MAKEFILE
Copy c:\lanutils\docs\blank.doc
c:\lanutils\docs\%1
c:\progra-1\access-1\wordpad.exe
c:\lanutils\docs\%1
```

```
GOTO EXIT

:OPENFILE
c:\progra-1\access-1\wordpad.exe
c:\lanutils\docs\%1

:EXIT
exit
```

The batch file says this: “If the %1 file doesn't exist, create it by copying `blank.doc` to the filename supplied by the %1 parameter, then start Wordpad and open the file. Otherwise, just open the file.”

Be sure your Makefile.bat batch file is set to *Close on Exit*. You can do this by right-clicking on the file in Windows Explorer, selecting *Properties*, then the *Program* tab, and checkmarking the *Close on Exit* checkbox.

`Blank.doc` is just an empty file. You need to have it in your notes folder and available for the batch file to copy as necessary.

The %1 filename parameter is passed to the batch file by the Q&A program, which looks like this:

```
> If Client ID <> "" and Add Note = "Y" Then {
  @Msg(@Shell("makefile.bat " + Client ID +
  ".doc"));
  Clear(Add Note)
}
```

This program in the **Add/View Notes(Y)** field (the actual field name is **Add Note**), is far simpler than the earlier program where the notes are stored in the record.

This technique requires a **Client ID** or similar field that uniquely identifies each record in the database. I made it an @Number field. (@Number in the **Client ID** field at the Initial Values Spec.) This way, each new record added to the database will automatically bear a unique ID number that you can use to name the external notes file for that record. In this case, if the **Client ID** field contains “55”, the @Shell program will launch Makefile.bat with a command line parameter of `55.doc`, which the batch file will read in as the %1 parameter. If `55.doc` isn't where Makefile.bat expects it (that is, it doesn't exist), Makefile.bat will create a `55.doc` file then open it for you to add your first note. Subsequent calls to `55.doc` will find the file, and the batch file will simply open it for viewing or adding a new note.

One problem with naming your notes files this way is that outside of Q&A you can't tell which record they're linked to. (Which client record does “173.doc” go with?) The solution is to start Q&A and pull up Client ID record number “173” and find out. Another option would be to add a header to the beginning of each notes file as shown in Figure 3 on page 8. In other words, when the notes file is first created, add a line that contains the client's name or whatever. This way, if you need to print the notes, anyone who sees the printout will know whose notes they are.

I use Wordpad as the external notes viewer/editor for

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When to Run Q&A in Monochrome

I'd like to change the basic Q&A standard blue and green menu system color scheme to a white background with black foreground text so it will be easier to see on my notebook computer, which I use out of doors when taking inventory.

Jim

What I think you are really asking for is the ability to have greater contrast not only in the menus, but also in the Q&A databases so that they are more easily readable in bright light on a notebook's screen. The best way to do this is to run Q&A in a full black & white mode instead of in color. White text on a black background will give you the best contrast. To accomplish this, just change the startup of Q&A from QA.COM to QA.COM -SMC and you will get a black background with bright white text for your Q&A menus and databases. You will be running Q&A in what's called "monochrome" mode. To change back to color when you move inside, simply change your startup command line to QA.COM -SCC. You could even set up two shortcuts—one for monochrome, the other for color.

Q&A Stuck in Monochrome

I just got a new XP notebook. The only problem is that Q&A 5.0 starts in black & white. What's the trick to get it to start in color.

Ron

This is the exact opposite of the previous correspondent's problem. You must have copied Q&A from another machine. Run it once with the startup set to QA.COM -SCC and it will be in color from then on.

Time Calculations

I am trying to get Q&A to calculate 12 different fields that contain time (H). For example, the fields will have entries like 9.00, 8.43, 8.00, and the like. These entries are actually hours that I am trying to add up to give me a total number of hours, like this:

	(Fields)	hours worked
Example:	Monday	8:30
	Tuesday	9:00
	Wednesday	8:00
	Thursday	8:00
	Friday	9:00
	Total	??

The thing to remember when using time fields in Q&A is that Q&A bases its calculations strictly on minutes, not on hours and minutes. So you can set each of the day fields to the time format (H) at the Format Spec, but the **Total** field must be set to a Number field (N2) with two decimal places. Then the programming in your **Total** field would look like this:

```
Total = (Monday + Tuesday + Wednesday + Thursday + Friday) / 60
```

This will give you what you want.

You could also have Q&A calculate the hours for each day by putting in the starting and ending times in hours and having a total field for each day as a number field. Then the total for the week would be a number field that sums the daily totals. This month's download file contains a sample Q&A 5.0 database (HOURS.DTF) that demonstrates these various options.

Removing Dupes Plus (Gulp!) Originals

Is there a way I can remove both duplicate records? I have two of some records and don't want either one. Is there an easy way to remove, say, 500 dupes without looking at each one individually and then removing them? When I do remove dupes, Q&A only removes one and leaves one, and I don't know which ones they were.

Maxine

Q&A for DOS comes with a *File / Remove / Duplicates* feature. That is just what it means: remove the duplicate records. It does not, and cannot, remove the duplicate(s) *and* the original. Once the duplicates are removed, the



Stumped?

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Q&A version number (and whether DOS or Windows) and a detailed description of the problem. We'll publish those questions we feel are of general reader interest; individual responses aren't possible.

original record no longer has any duplicates. The only option you would have is to use the *Remove Duplicates to ASCII* command, create a new database from the information in that ASCII file, and then remove records from the original file where the Retrieve Spec is that the record in this database matches a record in the new database. You can do this by setting a key field in the new database as a Speedy field and then using a Retrieve Spec in the old database like this:

```
= {@XLu("New Database", Internal Key Field,  
"External Key Field", "External Key Field") =  
Internal key field }
```

This will retrieve all the remaining non-deleted records.

A Word of Caution. *Do this only on a backup copy of your database!*

Network Access

There are only four people in my office. Q&A is installed on the server and we access it across the network. The server is used only as a server, not as a workstation. We can all access the same database but not more than one of us at a time. We would like to be able to have at least two people simultaneously updating information in the database. Is this possible?

Brian

If the data is on a server that nobody else is using as a workstation, and if everyone else is "mapped" to that drive on the server, everyone should be able to use the database at the same time. If simultaneous access isn't being permitted, go to *File / Design a file / Secure a file / Declare sharing mode*, and make sure that it is *not* set to "Disallow." It should be on "Automatic" for a true server and "Allow" for a peer-to-peer server or an NT server.

Small Screen in Windows XP

Just had to reinstall Q&A 4.0 because of some viruses. Q&A started coming up in a small box. I clicked on the left corner of the box and changed the default to Full Screen, then went into properties and changed it there to Full Screen. The next dialog asked if I wanted to save this setting for future screens and I indicated "yes." But when I start Q&A, it still loads in the original small box. Can this be rectified? If so, how? Thanks.

Richard

This is a bit of a bug on certain machines running Windows XP. The full screen setting you described does not seem to stick. However, if you close Q&A and go into the properties of your desktop shortcut (Right-click and select Properties) and then go to the Screen tab and select *Full Screen* there, it should stick.

Network Performance

I am having network performance problems. I run Q&A 5.0

for DOS on a two-computer Lantastic network. One computer uses Windows 98 and the other Windows 2000 Professional. Performance on the Windows 98 computer, acting as the server, is always great. Performance on the client Windows 2000 computer is good when the server computer is not running Q&A. When the server computer is running Q&A, the client computer is extremely slow. Each computer runs Q&A locally from its own hard drive. Do you have any recommendations? Should I get a dedicated server? Use something different than Lantastic? Wait for Sesame?

David

You have me at a loss. This is not a Q&A issue. It is a network interface issue. The real question is why are you using Lantastic as your network operating system? Both Windows 98 and XP have built-in networking capabilities that are designed for the operating systems you are running on. You don't mention what version of Lantastic you are using and whether it is truly XP compatible. There seems to be a network issue that has to do with file and record locking. But I can't make any conclusions or offer any suggestions without really having a lot more data.

That being said, I go back to my original question: Why use a third-party network O/S when you have one of the best ones built right into your computers? My approach on a system like you describe would be as follows. (This is what I would do, but there is much more involved than these very general steps. So proceed at your own risk.):

1. Completely uninstall Lantastic. (Sometimes, depending on the version, this is a nightmare and can wind up requiring a reinstall of your Windows operating system.)
2. Use Microsoft Networking.
3. Use the XP machine as the Server. (It is probably the newer and faster of the two machines.)
4. Make sure the data drive is partitioned or you are using Lesspace with Q&A.

Being that you "...have just barely enough computer knowledge to be extremely dangerous," make sure that you have a competent technical support person with you on this. Good luck.

Installing Q&A for DOS in Windows 2000

Just for your information, I found out that in order to install Q&A for DOS from the command prompt, I needed to type *FORCEDOS A:\install.exe*. That took care of the problem that I described to you on the phone, that I was getting a Q&A message after typing install that said:

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several reasons— primarily because it's a much smaller program than, say, a Microsoft Word and thus loads very fast. It also has a far less complex interface than Word with far fewer gizmos and distracting screen clutter. (Less stuff to confuse or entice novice users.) You can size and position the Wordpad window on your screen so it always comes up in a convenient spot relative to your Q&A window. Just below and to the left of my Q&A window is where I like it. (See Figure 3.) Wordpad also lets you “font” your notes for printing, if you like.

You can optionally use Notepad as your notes editor. Though Notepad limits you to 64K per file (approximately double that of Q&A's 32K limit), it loads instantly, has a very uncomplicated interface, and saves only to plain text (ASCII) format. Both Wordpad and Notepad come with every Windows PC. You'll find them in your Accessories group (*c:\program files\accessories* on a Windows 98 PC). Both programs support searching, making it easy to find a key word or phrase that might be in a particular note somewhere in the file.

Incidentally, notes created in Wordpad or Notepad using this technique can, if need be, be brought into a Q&A database record via the @Insert command. They're just plain text files.

Linking to worksheets

If you want to link your records to worksheets instead of documents, all you have to really do is change your filename extensions, where appropriate, from “.doc” to “.xls” (for Excel worksheets) and have your batch file start Excel with the worksheet name instead of starting WordPad.

What about Q&A 4.0?

Q&A 4.0 for DOS doesn't give you a way to temporarily shell out from a database record to run a batch file. But you can mimic the action of the @Shell command by using a macro in conjunction with a small utility program you can get for free. I'll show you how to go about designing a feature for a Q&A 4.0 database where you store your notes in external files, just like in the technique discussed above.

From a day-to-day usage standpoint, this “workaround” for Q&A 4.0 actually involves fewer steps than the corresponding Q&A 5.0 technique described earlier. With the Q&A 5.0 technique, you navigate to the **Add/View Notes** field, type a “Y” in it, and press Enter. That's three steps. With this Q&A 4.0 technique, you'll be able to add or view notes for a record simply by pressing a hot-key combination—such as Alt-N—from anywhere in the record.

The little utility program I mentioned is the key to all this. It's called DTFDEMON. You can download it from www.johntndow.com. (Click on the *Download demos, etc.* link in the navigation panel, scroll down to the *Other Programs* section, then click on the DTFDEMON link.)

You put DTFDEMON in your Windows StartUp programs folder (*C:\Windows\Start Menu\Programs\StartUp* on a Windows 98 machine) so that it automatically starts when you start Windows. DTFDEMON is a Windows program (not a DOS TSR) that runs silently and unobtrusively in the background, so you don't have to pay any attention to it.

DTFDEMON keeps a constant eye on the folder in which it is located. When a file named DTFDEMON.TXT appears in that folder, DTFDEMON automatically opens it and executes whatever commands it contains, then deletes DTFDEMON.TXT. For example, suppose DTFDEMON.TXT contains this line of text:

```
C:\qa4\makefile.bat 3333.doc
```

When it appears in the folder, DTFDEMON will open it and run the Makefile.bat batch program, passing to it the *3333.doc* command line parameter.

Makefile.bat, in this case, is the very same Makefile.bat shown earlier. It creates a file named *3333.doc* if it doesn't exist, then starts Wordpad and displays the file.

How you get Q&A to generate the DTFDEMON.TXT file *on-the-fly* for DTFDEMON is where the macro mentioned earlier comes into play.

Start by adding a **Temp** field as the very last field in your database. Program **Temp** as follows, substituting for “Client ID” the name of the field that contains the unique record identifier, which should be eight characters or less:

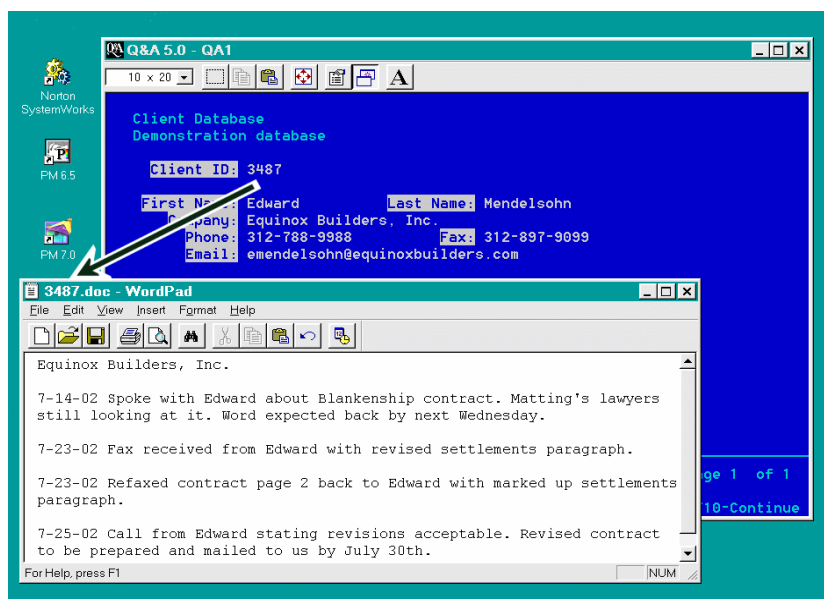


Figure 3. Your notes displayed in Wordpad. The notes filenames match the Client ID numbers.

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Derived Money Values in Merge Programs

ALEC MULVEY



If you have ever used a programming expression in a merge document, you've probably encountered at least one of the problems associated with using number or currency fields in such expressions—they lose their display formatting. A database field formatted for money values which nicely displays "\$0.50" as it should, turns into "0.5" when the merge document is printed. A properly formatted value of \$12.00 becomes just "12" with the dollar sign and trailing zeroes (for no cents) lopped off. The only way to guarantee consistent formatting with leading zeroes and two decimal places is to include the number field or currency field directly as a merge field, outside of any merge programming expressions. Q&A then knows how to handle it.

The scenario

This is the situation I faced recently. A client had a merge document that included one merge field—a money field in the database—but actually needed to show a total, derived from two fields. The obvious solution was to add another field to the database, program it to show the required total, and use that field in the merge document. But I'm always reluctant to add fields to a database for a single task like this. For one thing, redesigning the database can only be done in *exclusive* mode—nobody else can use it while you're redesigning it. And for Q&A 5.0 there's the "generations" issue (discussed extensively in past issues of *The Quick Answer*). So I would always opt, wherever possible, to use programming in the merge document.

Database vs. merge document programming

Programming a merge document, however, is rather more complicated and restrictive than programming a database. Some programming techniques are disallowed in this context. For example, you can't use a merge programming expression to set a field to a value. Nor can you use semicolons to break up a lengthy expression into several parts. For each single bit of derived text you want to print in the merge document, you are limited to just one programming expression which results in a value.

Another consideration was that the merge document I was dealing with already had a number of other programming expressions and I risked falling foul of the limits that apply to merge programming expressions.

These are:

- Each programming expression—from the starting "*"pg {" to the ending "}"—cannot exceed 79 characters.
- Q&A allows a maximum of 16 programming expressions per merge document.

This sounds like a lot. But if you have to do a number of complicated things, then you can quickly hit the 79-character barrier and so have to break down your expressions into a number of shorter ones. Then the 16-expression limit does not look so remote.

A specialty field for a special requirement

So, taking all this into consideration, I decided to use a field in this case. The field data would be needed elsewhere, anyway, and the client was uncertain about how the field should be formatted. Reprogramming a field later would be easier than manipulating a merge programming expression.

The requirements were that the field in question—destined to contain the simple sum of two other fields—needed to be shown with a currency symbol, a leading zero for cents where necessary, and two decimal places. You would get all this automatically by formatting a field with "M" for money values at the Format Spec, but the client in this case wanted a zero amount to be shown as "nil" or perhaps "\$0" (rather than "\$0.00").

Any deviations like this from the standard formatting mean you simply can't use the field as is. It has to be a plain text ("T") field instead of a money ("M") field, and you are forced to take a trip to the Program Spec to write some code that will do the job.

Following is the programming for the field (excluding the simple arithmetic) based on the special formatting needs described earlier. There are two different examples showing alternative approaches. Mix and match these two to meet your own needs.

Example 1

Input field value = 0

Display 0 field shows "0" as "nil"

Integer amounts are shown without decimal places (for example, "\$12")

```
#410:
IF Input = 0 THEN Display 0 = "nil"
ELSE { Display 0 = "$"+ @Str(Input);
      IF Input <> @Int(Input)
      AND Input * 10 = @Int(Input * 10)
      THEN Display 0 = Display 0+"0";
      Display 0 = @Replace(Display 0,"$.", "$0.") }
```

Explanation

After the conditional formatting of a zero amount, there is a check for an amount with one decimal place. (**Input** does not equal an integer, but **Input** multiplied by 10 is an integer). If so, add a trailing zero. Lastly add a leading zero to turn "\$.25", for example, into "\$0.25".

Example 2

Input field = 0

Display 2 field shown as "\$0"

Integer amounts are shown with two decimal places (for example, "\$12.00")

```
#420:
IF Input = 0 THEN Display 2 = "$0"
ELSE { Display 2 = "$"+ @Str(Input) ;
      IF Display 2 = @Int(Display 2)
      THEN Display 2 = Display 2 + "." ;
      Display 2 = Display 2 + "00" ;
      Display 2 = @Del(Display 2, @Instr(Display
2, ".") +3, 9) ;
```

```
Display 2 = @Replace(Display 2,"$.", "$0.") }
```

Explanation

After the conditional formatting of a zero amount, there is a check for an integer value, in which case a period (.) is added. Then two zeroes are added, regardless of the value. Next, the text string is trimmed so that there are two characters after the period. The @Del command deletes nine characters starting with the third character after the period, found by this programming snippet:

```
@Instr(Display 2, ".").
```

Lastly, a leading zero is added as in Example 1.

This month's download file contains a sample Q&A 4.0 for DOS database (CURRTEXT.DTF) with the programming shown above.

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Quick Tip

A Few Spare Fields Can Come in Handy

You don't want to go blithely redesigning your databases, adding fields, deleting fields, moving them around, and so forth—particularly if you are using Q&A 5.0 for DOS. In Q&A 5.0, any of these actions create a new generation of the database, and Q&A 5.0 is prone to corruption if you then copy the database design without observing some precautions. (It can also prove to be unstable if you XPost to it.)

For this reason, I have long found it beneficial to add a couple of spare fields to my clients' main databases when I initially design them. I normally place these somewhere on the last page and name them something like **Spare1** and **Spare2**. If I later find that I need an extra field for programming, a container for a derived value, or a place to store a specially-formatted value to fill a complex merge document requirement (see my article, "Derived Money Values in Merge Programs" above), then I can bring one of these spare fields into play immediately. I can then, if I like, change the field label, change the field name, and program the field to my heart's content—all *without* causing Q&A to make another generation of database. The only thing I cannot do is *move* the field to another location on the form.

Then, later, I can position the field where it really should be

(at a time when some more general design work is undertaken) and go to the trouble of making a new first-generation database, observing the precautions.

—Alec Mulvey

See the following tips and articles in past issues of The Quick Answer for more on the Q&A 5.0 "generations" issue and how to deal with it. —Ed.

Report Retrieve Spec Glitch Finally Solved—October 1996
Using QEXTRACT on Corrupted Databases—January 1997
Q&A 5.0 and Novell Networks—July 1998
XPosting on Networks—October 1998
What's a Database Generation?—November 1998
Recognize, Repair & Prevent Database Corruption, Part 1—November 1998
Recognize, Repair & Prevent Database Corruption, Part 2—December 1998
XPosting on Networks—January 1999
Database Corruption and Generations—March 1999
Copy Design Only—December 1999
A Safer Backup Method—August 2000

"Welcome to Q&A for DOS installation. Please press OK to allow the install process to temporarily exit Windows and continue the installation..."

If I clicked OK, the PC would just reboot into Windows 2000 again and not allow me to install Q&A. The FORCEDOS command handled it.

A deLeeuwe

I had never heard of this, but we learn something new every day. I looked up *Forcedos* on the Web. It is a command that forces 2000/XP/NT systems to invoke a program in an MSDOS instance. We have always told people that they can install Q&A for DOS in Windows, as recommended by Symantec, by using the *installd.exe* command instead of *install.exe*. (Both are on the installation disks.) This has always worked, so I guess it does the same thing as FORCEDOS, or vice versa.

@Color Crashes Q&A or Changes Design

The following is a combined report on an investigation into the @Color command in Q&A 5.0. It includes findings from Cliff Sobin, Alec Mulvey, and yours truly.

Crashes Q&A: Use the @Color programming command to change a field's display color. Press Alt-F6 to display the database in a Table View that includes the @color-changed field. Move to the next record with the arrow keys and Q&A will crash. There is no known fix. However, if you move around the Table View using the PgUp and PgDn keys, it will not crash. There is nothing you can do but be aware of the problem.

Changes the database design: Set up a Q&A database where you use an @Color command in the programming. You might find that the default colors of your form design have been permanently changed to those set by the @Color command. This is also a result of a crash caused by viewing the database in Table View.

From Alec Mulvey: I've just done a simple test. Crashing Q&A 5.0 by going into Table View and pressing down arrow activates the @Color change and immediately sets the field colors to those of the record currently being viewed—permanently.

Again, no fix here, but be aware!

Network Busy/Disk Drive Door Open

This problem has come from various readers at various times, stating that they are getting a "Network Busy" or "Disk Drive Door Open" message from Q&A during searches. We have seen these under a variety of conditions. All of them can be remedied with a little

analysis and work. First, one thing to keep in mind: These are *not* the same messages. The "Your Disk Drive Door is Open ..." message on a network means that you have lost the network connection and Q&A can no longer see the drive. This one is a *hardware* type of failure. The drive letter is no longer available to Q&A. Check your network card or cable. That's where the culprit will usually be found. Sometimes the failure will be intermittent. Track it and try to isolate whether the problem is in the cabling, the hub or switch, or the network card (server or workstation).

Now to the nasty one: *Network Busy, Please be patient ...* Patience may be a virtue, but not here. This message is an indication of a real problem concerning network access to the server. Q&A, being a DOS program, does not do real well in retrying network access once it has lost it. Here are the culprits we have seen in our travels:

- The server is dedicated but it is an NT server. The fix is easy. Change the sharing mode from "Automatic" to "Allow."
- You are using a dedicated server and there is something running on the Server that is demanding heavy disk access and/or memory utilization (accounting packages, graphics programs, disk defragmenters, virus scanning, DOS copying, or the like). Make sure that the server is not being used to *run* other programs while it is serving Q&A databases. As a last ditch fix, add another physical hard drive and put Q&A data on that drive.
- You are on a peer-to-peer network with more than five users and the *Server* is just another workstation that also runs Q&A for itself. This is a really poor situation from a network performance standpoint. When the local (server) user asks for data, they get priority over everyone else on the network. Since the server is also a workstation, the local user of the server could also be running other programs. Best bet here: invest a small amount in a new computer and make it the server—you do not need to have actual server software. Any Windows operating system will do—a machine whose only job is to serve data to the network users. And keep all users away from it.
- This message only happens after a few days and rebooting the *Server* makes it go away for a while. This is because you are using Windows 9x or ME as a server. These versions do need to be shut down and restarted on a regular basis (at least one per week). The fix: set up a regularly scheduled reboot sequence or update the server to Windows 2000 or XP.

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Storing Notes. . . cont'd from page 8

```
< Temp="c:\qa4\makefile.bat " + Client ID + ".doc"
```

Next, add some fixed text on the form that says something like: *To View or Add Notes for this Client, Press Alt-N.* Finally, create an Alt-N macro (use another identifier if Alt-N isn't available) that looks like this:

```
<begdef><altn><name>"<caps,>altn<caps.>"<vidoff>  
<end><end><end><f6><f2><dn><dn><dn><dn><end><f10>i  
<capsf4>c:\qa4\dtfdemon\dtfdemon.txt<enter>  
<capsf4><f6><home><home><home><enddef>
```

This macro performs the following actions:

1. **End, End, End** to move to the last field in the record—The **Temp** field. When the cursor enters the temp field, your program will fill it with "c:\qa4\makefile.bat 3333.doc" if the Client ID field contains "3333".
2. **F6** to expand the field.
3. **F2** for the Field Print Options screen.
4. **Down** (four times) to move to the *Print To* line, and **End** to highlight the DISK option.
5. **F10** to print to DISK, and **I** to select "IBM ASCII."

6. Q&A will prompt for the filename at this point. The Shift-F4 ("**<capsf4>**") clears the default filename line and the macro "types in "c:\qa4\dtfdemon\dtfdemon.txt" as the filename to save the contents of the **Temp** field to, followed by **Enter** to save the file.

7. The macro then clears the **Temp** field and sends the cursor to the first field in the record.

At the instant that DTFDEMON.TXT is saved, DTFDEMON will open it and execute its contents (the batch file with the notes document filename parameter), and Wordpad will open revealing the notes document for the current client's record.

You might need to tweak your Q&A shortcut's properties to get the best performance. For example, in Windows 98 I got the best results by checkmarking *Always Suspend* and setting *Idle Sensitivity* to "High." These are both on the shortcut properties *Misc* tab.

Also, be sure your Makefile.bat batch file is set to *Close on Exit*. You can do this by right-clicking on the file in Windows Explorer, selecting *Properties*, then the *Program* tab, and marking the *Close on Exit* checkbox. On the same tab you can set the *Run* field to *Minimized*. This way (at least on my machine) the black DOS box running the batch file won't show and things will look smoother.

Tom Marcellus is editor of *The Quick Answer*.

Program Switches. . . cont'd from p. 2

be the default in a new Q&A installation, but take care. Personally, I much prefer to have this set to "No." This way, the local (on-field-exit) programming is executed *before* the general calc programming that might be in any other field. This I reckon is much more intuitive.

Does it matter? *YES!* Take as an example some Y2K-related programming that modifies an abbreviated date entry such as "16 Nov 02" so that a 2002 date is entered rather than a 1902 date. This might well be an on-field-exit statement. That would be rational, as it avoids Q&A having to execute it every time any field is changed. Now, if the *Main program before...* setting is "Yes," and there is another field with programming that manipulates that date, then the other field would pick up the incorrect 1902 date. You must have on-field-exit programming executed *before* main programming in this and, for me, most situations.

Incidentally, I see no reason whatever to set Calculation Mode to "Manual." As far as I am concerned, this part of the dialog could be reworded to say:

*Do you want your data to be correct **All** of the time or just **Some** of the time?*

—Alec Mulvey

This month's download file contains a sample Q&A 4.0 for DOS database, PROG_B4.DTF, that demonstrates the different results.

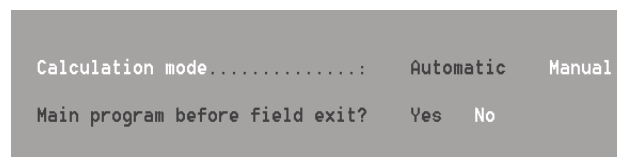


Figure 1. The Calc mode/Main program execution options dialog box. The options shown in white text are the defaults.

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