

Networking Printers for Q&A DOS

JEFF NOREMAN



NETWORKING has become easier over the years in the world of Windows. Microsoft's advances in making it easier to set up a small home network has been one of their greatest accomplishments. However, as with most tasks, the easiest way of accomplishing something is not usually the best way.

There are many ways to network, and likewise, many ways to network printers. Networking for any DOS program is a bit more challenging than Windows only networking because DOS programs need to have each printer set at an LPT (line printer or line print terminal) port. This can be accomplished in every version of Windows with most printers. It can be done with printers connected to computers and shared from those PCs, or connected directly to the network through print servers.

When simple, out of the box Microsoft networking is turned on, it is a relatively ugly situation. Any network card you have in your machine is communicating using every protocol (network language) there is and offering every service (file and printer sharing, client for Microsoft Networks) to each protocol. It reminds me of a group of octopuses dancing the hora. It's slow, awkward, and not very safe. However, this setup usually lets one computer see another computer and share resources without involving a call to Microsoft tech support, your printer company's help line, or a service call from the local, friendly consultant.

In this article, which is in two parts, I'll show you first how to network printers on Windows 98 machines, and then on Windows XP machines, using both PC-attached printers and true network printers. XP machines can be both clients and hosts to 98 machines, and vice-versa. This first part deals with Windows 98 machines being both hosts and clients to network printers.

Why a true network printer?

You might ask why would anyone want to spend the extra money for a network printer if they can print over a network to a less expensive printer that's attached directly to a PC in the office.

My three answers to that question are speed, dependability, and flexibility.

First of all, printing directly to a network printer at up to 100 million bits per second is much faster than printing through Sally's PC (while she might be doing work on it), through her PC's parallel port at 60 to 80KBPS. Secondly, if Sally's PC isn't on and functioning properly, you're not printing to her printer no matter what. Thirdly, nearly every network printer (as a backup method) can also be hooked up locally to a computer as another way to get output from it.

By the way, many true network printers also come with faster processors and more memory. So if you can afford the additional cost, I highly recommend buying network printers.

For the sake of simplicity, I'll use Hewlett Packard LaserJet printers in my examples. There are many reasons for this choice. HP LaserJets are reliable workhorses, they are the most popular laser printers (so you

The Quick Answer

The Do-It-Yourself Guide to Q&A

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might well have one), and they work well with every version of Q&A. They also come configured both as stand-alone and network-ready versions with HP's JetDirect card built in.

If you have a less expensive, non-network-ready HP printer, you might be able to purchase an external JetDirect print server to get the same results. You might also be just as successful with other brands of printers. Just take the following instructions and improvise. (Or, call Microsoft tech support, your printer company's help line, or your local, friendly consultant).

Let's assume you've successfully installed your printer on a computer

1. Open the database.
2. From the File menu select Copy database.
3. Check the boxes Copy the design of this database, Copy with DOS form ..., Copy Selected Records.
4. Click OK and supply a new name for the database copy and click OK again.
5. In the Copy Records dialogue click on Match Fields and then Copy.

Q&A version 5.0 DOS

A Q&A 5.0 database should be made "Generation 1" prior to translation. Do the following steps:

1. Work with a backup of your file.
2. Step through every menu choice on the File, Design, Customize a file, Customize menu by selecting each and then pressing F10 until the menu appears again.
3. Step through every menu choice on the File, Design, Program a file, Programming menu by selecting each and then pressing F10 until the menu appears again.
4. Redesign all reports and print specs under the Reports, Design/Redesign a report and the File, Print, Design/Redesign a spec menu choices. Highlight each report and print spec and press F10 until you get the message "Your report (or Print Spec) has been saved. Do ...?" Select No and continue until you have completed all reports/specs.
5. Perform a null mass update. From the File, Mass Update menu, select the database, press F10 at the Retrieve screen, F10 at the Update spec screen and No to the question "Do you want to confirm ...".
6. From the Q&A Main Menu select File, Copy, Copy Design Only.
7. Assign a new database name, press F10.
8. From the Copy Menu select Copy selected records.
9. Press F10 three times. The new copy is now Generation 1.

2. Clean up your data

Sesame is stricter about field values than Q&A. For example, if you tell Sesame that a particular field is a Date field, it expects all the values in that field to be valid dates. Review the data in your databases to make sure that the data conforms to the field types. Non-conforming data will not be imported correctly.

Q&A makes it very easy to find incorrectly formatted values. In the Retrieve Spec, type */.* in the field you want to check. This will display all records with an incorrectly formatted value in that field.

3. Legalize Your Field Names

Sesame uses field names in programming, rather than logical field numbers. Sesame Translator will take care of converting your field numbers to field names. However, those field names need to be legal. If you skip this step, Sesame will still translate your database, but programming that uses illegal field names will not be able to run. You can fix these after translation using Sesame Designer, but, if you take care of this in Q&A before you translate, Sesame can save you some of the work. You can easily change these field names at Q&A's Field Names Spec.

To be legal, field names should include only letters and numbers. You can also use spaces, but you should avoid them where possible. If you already have field names with spaces, you can leave them, but you should try not to use them in new field names. Field names cannot:

- Be a number or evaluate to a number.
- Contain any operator and related characters, such as ! # @ & * + - / { } [] % ^ =. The characters ! and = are particularly problematic. These are used internally in Sesame for subforms and specs. A translated database with field names including these characters may show unpredictable behavior.
- Be the same as a Q&A function name (like *UserSelect*).
- Be a reserved keyword. If you have a field simply named "Date," you need to rename it to something like OrderDate. If you use "Date" in Sesame programming, it can't tell if you mean the field Date or the internal field type Date.

4. Other Translation Issues

- *Restrictions:* Sesame does not use field restrictions to create picklists. Sesame uses field restrictions to restrict field values. Restrictions are applied in Sesame more strongly than they are in Q&A. This can be inconvenient after translation if your actual data does not meet your stated field restrictions. You should review your Restrict Spec before translation. Remove any restrictions that only exist to generate picklists and those that do not reflect your actual data. Add " ;=" to each restriction where you might want to have blank values. As a side note, Sesame does provide other methods for data validation which are more flexible than restrictions.
- *File names and paths:* Programming statements that refer to .dtf files will need to be updated. Sesame files use a .db extension. The path to the file is also likely to change.
- Review your programming and remove any references

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Incompatible Database?

I have been using Q&A for DOS 4.0 on and off for many years. A few days ago the laptop on which I had it installed died. I installed Q&A onto my desktop computer and was able to recover the main database files I use and copy them over to the desktop. Now, however, when I try to open one of the databases, I get the following message: "Problem, database is incompatible with current version of Q&A". I find this strange as I have two databases and one looks up data from the other. The second smaller one opens fine. I don't recall updating/upgrading the version I had on my laptop to anything other than the version on the Q&A install disks. This database contains more than 11,000 records that I do not wish to lose!

Ian

This error message has nothing to do with the version of Q&A you are using. It has to do with the fact that the headers and structure of the DTF or IDX file have been damaged. You have a corrupted database. If you are running these databases on a hard drive larger than 2GB and not using Lesspace, you will probably corrupt *all* your databases over time. There can be many reasons for this corruption, not the least of which could be that it was damaged during your laptop crash. The good news is that your data is probably still intact. Do not try to do anything more to it with Q&A.

First, make sure you have a backup copy of it just like it was when it came off your laptop. Do this with Windows Explorer or My Computer. Make sure to copy both the DTF and the IDX files. Put this backup in a safe place. Hopefully, you also have an older backup copy of your database. Use only a *copy* of this backup on your *local* hard drive to do the following.

Try to run Recover (*File / Utilities / Recover database*) on the file without doing anything else. Odds are that it will fail or even refuse to start. If it does start and fails to complete, throw away that copy of the .DTF and .IDX and make another copy from your safe backup.

If it works, there are a few more steps to do. Make an immediate copy of the recovered file using Q&A's backup or the F5 copy from any List of Files screen.

Then, from the Q&A Main menu select *File / Copy / Copy Design Only* and copy the design to a new name. If successful, then do *File / Copy / Copy Selected Records* (all of them) into the new database. If it works, you are back in business.

If the steps above all fail, you will need to obtain a copy of either Qextract.exe (a Symantec utility) or DTFDoctr.exe (a John Dow utility) to attempt to extract your data from the damaged database. You can email us and we can get you Qextract or you can get DTFDoctr from www.johntdow.com. These utilities are your best bet for recovering your data from the damaged database. You can then import the data into that hopefully present old backup of your design. Or, you can re-create your design from scratch. Recovering your data is the most important thing.

What you have demonstrated with this problem is that there are only three rules you must follow when using a computer—Backup, Backup, Backup.

Running Multiple Copies of Q&A

I have Q&A for DOS 5.0 installed on two networked computers. It is on computer A's F: drive (1.9GB FAT partition) running XP Pro and on computer B's C: drive (10GB NTFS partition) running XP Pro. Computer B's Q&A shortcut points to computer A's F: drive. Both computers can access Q&A, but not simultaneously as needed. Sharing mode has been set to ALLOW but I still get the error message telling me that this is a single user version of Q&A. I read something somewhere that said that Q&A can be simultaneously accessed without installing the NET Pack. Please help.

Brian

You are trying to run two copies of the same single user copy of Q&A! This has nothing to do with your database being shareable or not. A single copy of Q&A can only be run once. You are trying to run the same copy of Q&A (the one on Computer A's F drive) twice. Aside from the fact that this won't work, it is also illegal (a violation of the software license



Stumped?

Send your Q&A questions to @Help, The Quick Answer, Marble Publications, Inc., 1927A Harbor Blvd, Costa Mesa, CA 92627 or email to mailbox@quickanswer.com. Include your name, address, phone, and your

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.

agreement). You need to get a second (legal) copy of Q&A installed *on* and running *from* the second computer (computer B). Then you can run both copies independently and point them both to the shared database file on computer A. they will network fine and the database will be available to both at the same time.

Q&A, pcAnywhere and Windows XP

We have a Windows XP Server with Q&A for DOS and pcAnywhere 10.5 on it. In setting up the server, we chose to stay with the large hard drive and use Lesspace. We find that when using pcAnywhere for remote access, the video goes crazy when running Q&A. It causes pcAnywhere to lose its connection and we end up having to kill the task in PCAnywhere on our local PC. We can't get past this problem. Do you have any solutions or suggestions?

Barbara

You really haven't given me too much to go on. I will tell you what I have found with Q&A and Windows XP and pcAnywhere. If you are running Q&A in full screen mode, pcAnywhere will crash as you have described. Q&A must be run in a Window. Symantec has acknowledged this problem with pcAnywhere and full screen DOS programs and has said that there is no fix planned.

In addition, pcAnywhere on two XP machines will be horribly slow even with Q&A running in a Window. There is no workaround. We have tried many remote access programs with DOS applications on Windows XP and the result is the same. The only solution we have so far is to have the pcAnywhere host machine running Windows 98, or to invest (big bucks) in a Citrix Server system.

Q&A-to-Sesame Translation Questions

Does Sesame support both field *labels* and field *names* as Q&A does? There are many times where it's advantageous that they be different.

Jan

The Sesame database manager is relational so it goes one step further. It uses form layout elements as "containers" or "placeholders" for database fields. This is so you can have the same fields on different forms by binding (linking) them to different layout elements. These elements have both a label and a name, and the two can be different. The thing to remember is that your program Sesame using layout element names rather than Q&A-like logical field numbers. An element's label can be whatever you want, but your programming must reference the element itself by name. This is basically the same as Q&A's field names and labels.

How do I get a list of the reserved words that cannot be

used as field names?

Go to www.lantica.com and click on the *Reserved Words* link in the left-hand navigation pane under the Support heading.

Since Q&A function names cannot be used as field names in Sesame, what about using the function name without the preceding "@" symbol. For example, Q&A 5.0 has an @Save function. Will Sesame permit a field to be named "Save"?

Yes, only @Save is a reserved word. Just as in Q&A when you use duplicate field names, Sesame evaluates the element names you assign (initially, by default the same as the label, just like Q&A) and if they are illegal or duplicates, Sesame reassigns them as LE1, LE2, and so forth

Does Sesame allow you to store a database anywhere, or does it only allow the default directory, for example, \Sesame\Data?

Sesame will let you store your databases anywhere you want — in any folder on any drive.

As the Lantica instructions point out, Sesame database names use a .db extension rather than the Q&A .dtf extension. This means that all references to a database name with a .dtf extension must be changed to a .db extension. In Q&A, we do not use any extension when referring to .dtf files. Does this mean we have to add the .db extension to all these references in Sesame?

Again, Sesame goes a bit further than Q&A. You can have multiple databases with multiple forms in a single Sesame application. If you use this feature, you will have to specify not only the name of the database but also the name of the form the field appears on, as in *customer.db, MainForm!ElementName*. If you use Sesame like you use Q&A, where you have an external database with one form, you will specify just the database name with the .db extension. In order to make it easier on those translating their Q&A databases, Sesame's developers have made it so that Sesame will recognize and read Q&A database files as external lookup files. In this case you will have to add the .dtf to the database filename.

Sluggish Lookups

We are having speed problems with Q&A. Sometimes it is fast doing XLookups, and at other times it is very slow. We have a customer database with about 40,000 records, which is used for XLookups by a separate database

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Finding Unwanted Records

JON McLAUGHLIN



GETTING ready to migrate to Sesame? Along with preparing your databases in accordance with recent articles in *The Quick Answer* and postings at

www.lantica.com, you may want to weed out unwanted records as well. Duplicate records, blank fields, and invalid entries can be eliminated using some surprisingly simple methods.

Duplicate records

In most all situations, duplicate database records are not just an annoyance, they are something that should definitely be avoided. They can cost money and time in mail-merge applications, and confuse or upset the customer that gets two or more of the same mailing. Also, duplicate records will generate inaccurate counts and totals in Reports.

Q&A *does* provide a Remove Duplicate records feature. Problem is, there is no easy way to view those records before deciding if you really want to delete them. Q&A simply keeps the first record it comes to, then removes all succeeding records with duplicate values in the specified fields. It does allow you to save the deleted records to an ASCII file, but even this is not much help. Viewing this file can be confusing, and re-entering a record you really did not want deleted can be difficult and time consuming.

The first step

What is needed as the first step in removing duplicate records is a procedure whereby you can simply *review* them. This would give you the opportunity to decide if you do want to save or delete a duplicate record, or perhaps just edit it.

An appropriately designed Q&A Report can do just that.

First, you will need to decide what fields in your database you want the Q&A Report to list as duplicates. For the following example, I use a customer database, and have picked two fields for such a list: LASTNAME and PHONE. Just using LASTNAME would list as duplicates the records for John Smith, Betty Smith, Richard Smith, and so forth. This is avoided by also including the PHONE field.

(If you use a phone number field as part of your duplicate record check, there is one important caveat. All the phone numbers in the specified field must be formatted exactly the same way. For example, 722-9127 will not return a match with another record containing

949-722-9127, even though they are the same phone number. So if you use a phone field, make sure that all entries are standardized.)

Report design

To create the Report, from the Main menu choose Report/Design, then type the name of the database you want to check and press Enter. Name the Report "Duplicate Records," press F10, and choose *Columnar* report. This takes you to the Retrieve Spec. Simply press F10, since you will want to search all your records for duplicates. This will take you to the Column/Sort Spec.

Add the following spec (of course, your fields might be named differently):

```
LASTNAME: 1,I
PHONE: 2,I
STREET: 3,I
```

Next, press F8 to switch to the "Derived Columns" screen. Add the following column:

```
Heading: LIST OF RECORDS
Formula: #1 + " " + #2
Column spec: 4,AS, I
```

This derived column will make a list of the last name *and* the phone number (separated by a space) of all your records. Next you will need to make a copy of this column in a new column:

```
Heading: copy of 4
Formula: #4
Column spec: 50,I
```

Now add this derived column:

```
Heading: COUNT
Formula: @count(#50, #4)
Column spec: 5,I
```

Column #4 changes, or "breaks", every time there is a unique value in it. The above formula counts the number of records between column breaks. For example, if there are two records from the column "List of Records" that are identical, this column returns the

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to full path statements like this:

```
"C:\QA4\database\filename.dtf"
```

Sesame will store files in its own folders and the Sesame filename extension is ".db" Change your Q&A database programming to read like the following:

```
\Sesame\Data\Filename.db
```

where \Sesame\Data is the folder where you will be keeping your data (Note: no Drive letter need be specified).

XLookups with multiple assignments: Sesame uses XLookup syntax that assigns one field per statement. Change any multiple XLookup statements like this:

```
XLookup("External.dtf", #10, "X#20", "X#30",  
#30, "X#40", #40)
```

To single line multiple lookup statements like these:

```
XLookup("External.dtf", #10, "X#20", "X#30",  
#30);  
XLookup("External.dtf", #10, "X#20", "X#40",  
#40)
```

- @Macro statements (Q&A 5.0 only) for Q&A macros will not work in Sesame and should be deleted from programming.

Network Considerations

Although Sesame is a true client-server database, we recommend that all Q&A translations be performed on a local, client machine. This will make the translation process more efficient and remove any network issues during the initial, intensive file operations. After translation is complete and any initial redesign has been done to the new Sesame application, it can easily be moved to the network.

Translation Process

Follow these steps to translate your Q&A database.

1. From the Sesame menubar select File / Translate Q&A.
2. Use the *Select a Q&A database file to translate* window to navigate to the folder where you have stored your Q&A databases to be translated. Click on the one you want to select. (See Figure 1.)
3. In the *Set a filename and directory for save* window, type the name you want the Sesame application to have (you can change it later) on the bottom line. You do not have to include a file extension but if you do it must be .db (See Figure 2.)
4. Click on Accept.

Sesame will translate the Q&A database and open the resulting new application in the main Sesame window. (See Figure 3 on following page.) The Q&A database just translated will be where it was and be unaffected by the translation process. It will still be useable in Q&A.

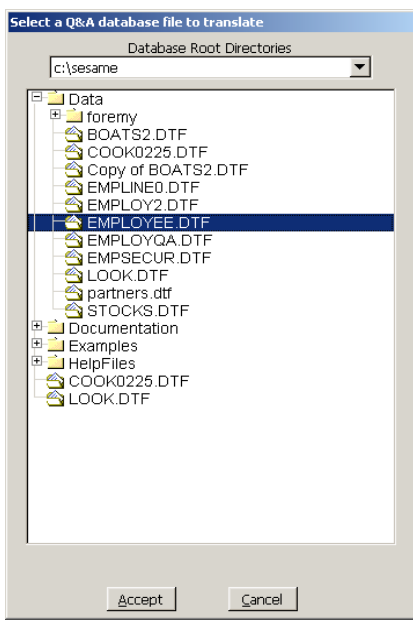


Figure 1. Selecting a Q&A database for translation. Double-click on the filename or click once then click Accept.

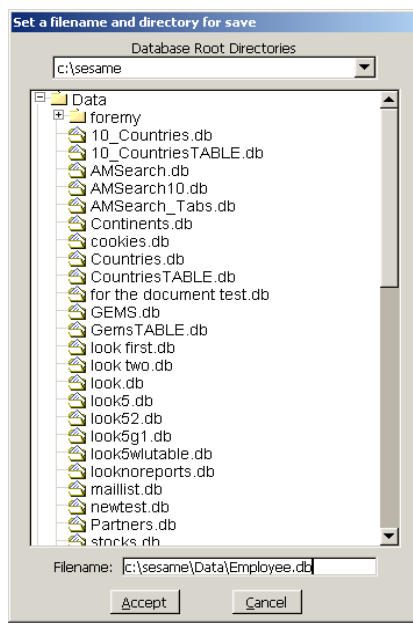


Figure 2. Assigning a Sesame filename for the translated Q&A database.

Translation Errors

If there are errors during the translation or issues with the Q&A database that Sesame cannot automatically correct (for example, invalid field names, programming errors, illegal characters, or the like), you will receive the message "Warning: C:\path\filename.dtf produced warnings while importing. Check the Server Administration Log for details." This log can be accessed from the Sesame File menu by selecting Server Administration and entering the default User Id / Password (admin / hello — lowercase only) and clicking on Accept.

Click on the Logs tab. (See Figure 4.) The log of errors can be printed out by selecting File / Print or by pressing Alt-P. You can select what lines you want to print by clicking on individual lines with the mouse, by dragging across multiple lines to highlight them, or by clicking on non-contiguous lines while holding down the Ctrl key. Some of the errors and warnings listed in the Log file must be addressed and corrected before your translated database will work correctly in Sesame. Your database will work even with certain kinds of warnings, but you may encounter errors later — for example, if you later try to use an illegal field name in programming.

Password Protected Q&A Translations

If the Q&A database you select to translate is password protected, upon completion of the translation, and before the database is opened in the Sesame window, you will be prompted for a valid Administrator-level User ID and Password. Enter them in all uppercase since that is the way they are stored in Q&A and since Sesame passwords and User ID's are case sensitive. Click on the Accept button. The Sesame database will have basic password protection at this point, not full Q&A-style security.

Bottom Line

Sesame's Q&A Translator is very strong. It's likely that your databases will translate and run without your having to change a thing. Databases with lots of XLookups and such require some touching up after translation. There is no harm in translating your Q&A database more than once, so you can try it and then retry if you want to make more changes prior to re-translation.

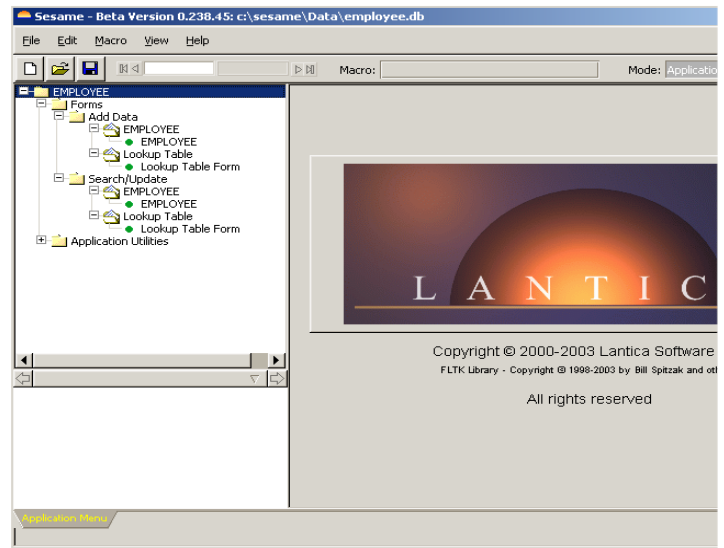


Figure 3. Sesame window after successful Q&A file translation.

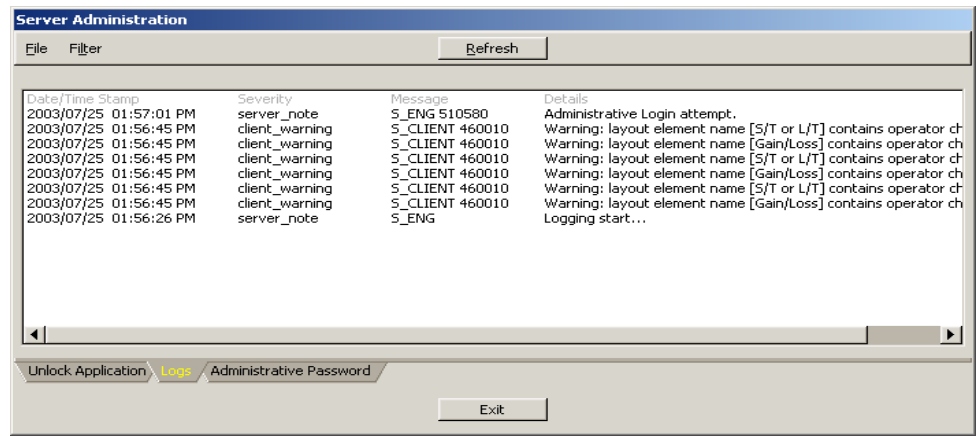


Figure 4. Reviewing translation errors after Q&A file translation.

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number 2. All records that are unique will return the number 1. We can use these values to pinpoint duplicate records with the following derived columns:

Heading: DUPLICATE RECORDS
Formula: @text(#5>1,#4)
Column spec: 6

This states, "Anytime column #5 is greater than 1, return the value in column #4." This gives us exactly what we need — a list of all the records that have the

same Last Name and Phone number.

For further comparison, you could add a column that shows the Street Address as well, using the following derived column:

Heading: STREET
Formula: @text(#5 > 1, #3)
Column spec: 7

Now finish your Report by pressing F10, defining your Printing Options, and print out the report. With this in hand, go to Search/Update to retrieve the duplicate

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(Helpline). When we enter an earlier contract number into Helpline, the lookups are quick. When we enter a later number, it is quite a bit slower (about 3 to 4 seconds). It's the same whether we use @XLookup or XLookup. Is this normal, or do you think I should look closer at the programming and other issues like speedy fields? The unique lookup number is the contract number. Our unique numbering scheme recently exceeded 100,000. When we do lookups on contracts numbered 1 or 100,000, they are very slow. If we try, for example, 80001, the lookup is fast. I thought the problem might have something to do with the indexing. The indexed field is a number field. I changed it to a text field and it did not make a difference.

Daniel

Before you consider any radical "solutions," you should check the obvious things:

1. Removing and reinstalling the speedy fields to recreate the index. How many speedy fields do you have? More than five and you are just asking for performance trouble. Go to *File / Design / Customize / Speed up searches* and remove all S, SU and SE designators. Press F10 to save, and then go right back in, replace them, and press F10 again.
2. Perform a "null" mass-update on the database (blank Retrieve Spec, blank Update Spec). This will effectively rewrite all of your records and refresh them along with the index file.
3. Backup the database and run Recover on it.

Dan wrote back to say that removing and replacing the speedy fields solved his problem. I would still recommend doing steps 2 and 3.

Graphic Images in Q&A DOS Documents

I have a question regarding Q&A for DOS 5.0's Write module. I want to incorporate our logo onto a write merge document. The logo is a Corel graphics file, but can be turned into a bitmap or jpeg file. How do I set this up in Q&A?

Bob

There have been articles in *The Quick Answer* covering this very thing. (See, for example, "Graphic Printing Comes to Q&A DOS" in the December 1998 and January 1999 issues.) My favorite way is to bypass Q&A Write altogether. It is too limited and does not natively support any kind of image file. I don't think that there is a computer left out there that does not have Microsoft

Word or Corel WordPerfect installed. These are powerful word processing packages that give you almost complete control over graphic images. They also make it very easy to set up a merge document that can use a plain ASCII text file as its data source.

My point? There is nothing easier than exporting the records and fields you need from Q&A. Just save your Standard ASCII export file with a .CSV or .TXT filename extension.

Open Word or WordPerfect and tell it to use your Q&A export file as the data source for your merge letter. Logos, mail merges, email merges, fax merges are all now at your fingertips.

Running Q&A over WIFI Network

I have read all of the latest on WIFI networks and I finally took the plunge. I set up a small wireless network using the high speed 54G standard. But now Q&A runs like a snail and I get crashes that force me to recover the database almost every day. Are there some special settings I can use in Q&A to make it run better on my network?

Linda

I have read all the hype, too, and have set up my own small wireless network to test. (I am writing this column on an 811.b wireless network.) I have followed all of the testing and reviewed the evaluations. Here's my own considered opinion:

Dump the wireless and get back to a real network!

The 54G, and for that matter, the 811.b standards both operate at a 2.4 Ghz frequency. This is the same frequency as wireless phones and microwave ovens, as well as a bunch of other unregulated electrical appliances and motors. Thus you get interruptions in network transmissions. Q&A just does not like any break in a network when it is trying to write to a file — and it is not very good at waiting and retrying. It will crash more often than not under such circumstances.

As for speed, at a mere *one foot* (yes, 12-inches) from the wireless access point, the best transmission speed you can expect over a 54G network is about 20Mbs. On an 811.b, this drops to less than 6Mbs. You don't even want to know what it drops to at 20 feet. Your old wired network was running at 100Mbs at any distance. That is at least five times faster. Q&A is slow? Well, no wonder.

Sure, it's convenient, new, technologically impressive, and even sexy to discuss. But, if you want to get real work done reliably, wired is still the way to go.

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printer driver. For LaserJets made in the last eight years or so, I use HP 4/4L in Q&A 5.0, and LaserJet 4 in Q&A 4.0 for DOS, as these are the latest drivers Q&A has to offer.

If you can't make the connection

If you have any problems networking, please follow the advice I give my clients. First reboot your computers. More than 90% of problems (and not just network problems) go away when you reboot PC's. Then simplify the situation by removing things that may be interfering. Add Microsoft Critical Patches through Windows Update, turn off your software firewall, and don't let programs start automatically at bootup (like instant messaging programs). Disabling bi-directional support for this printer (in Spool Settings on the Details tab of your printer's properties in Settings on the Start menu) can make a silent printer spring to life for Q&A for DOS. Viruses and worms, defective network cards and hubs, and wiring that runs too close to interference can all cause your network to be intermittent, so check them as best you can.

Now, let's talk about Windows XP. I'll tell you how one client's network went down the drain whenever someone used the ladies room. And remember, when all else fails, call Microsoft tech support, your printer company's help line, or your local, friendly consultant.

Part 2—Network Printing in Windows XP

I'll assume that Windows XP is set up with the Windows XP-style two column start menu. To check this in Windows XP, just click on the Start button. If one column of choices appears with the words "Windows XP Home" or "Windows XP Professional" written sideways, you are using the old "Classic" Start menu. To change to the Windows XP-style Start menu, right-click on the task bar to the right of the Start button on an empty space. In the menu that pops up, click on *Properties*. Then click on the *Start Menu* tab near the top. Click on the *Start Menu* radio button, then click *OK*. You'll now be using the XP two-column Start menu.

Sharing a printer attached to a printer host PC with Windows XP

Sharing a printer attached to a Windows XP PC, like a Windows 98 PC, is a similarly easy task. On the computer that's attached to the printer, first, double check your network settings. Click on *Start / Control Panel*. Double-click on the *Network Connections* control panel, and you'll see several choices. Choose your Local Area Connection by right-clicking on it and then clicking on *Properties*. (If you have more than one Local Area Connection, pick the one that has the status *Enabled* shown.) There will be an entry for Internet

Protocol (TCP/IP). If the box to its left isn't checked, then check it. Do the same for *File and Printer Sharing for Microsoft Networks*. Click *OK* and then close the *Network Connections* windows. Unlike Windows 98, XP should not force you to reboot.

Go back to the Control Panel and double-click on the *System* icon. Click the *Computer Name* tab, and make sure the Workgroup is the same on all PCs. While you're at it, check the name of both the Workgroup and the computer. (Write down the name of the computer, as you'll need it later.) Although names of any length might work, XP seems to network more consistently with alphanumeric names of eight characters or less. So make sure your computer's name is eight characters or less.

Now that sharing is activated, let's share the printer. Click on *Start*, then go to the right column and click on *Printers and Faxes*. Right-click on the printer you wish to share. On the menu that appears, select *Sharing*. On the *Sharing* tab, click on the *Share this printer* button, and give the printer a name to identify it over the network (Write down this printer's shared name now.) Remember to use eight characters or less (without dashes or spaces works better. See in Figure 4). Click *OK* and you should be able to connect to that printer from another computer on your network.

Connecting to a printer shared by a PC from a Windows XP PC

Let's connect to the printer you just shared. Go to the workstation you'd like to print from and click on *Start / Printers and Faxes*. Double click on the *Add Printer* icon to start the Add Printer Wizard. Click *Next*, then select *A network printer, or a printer attached to another computer*. Click *Next* again. Make sure that *Connect to this printer (or*

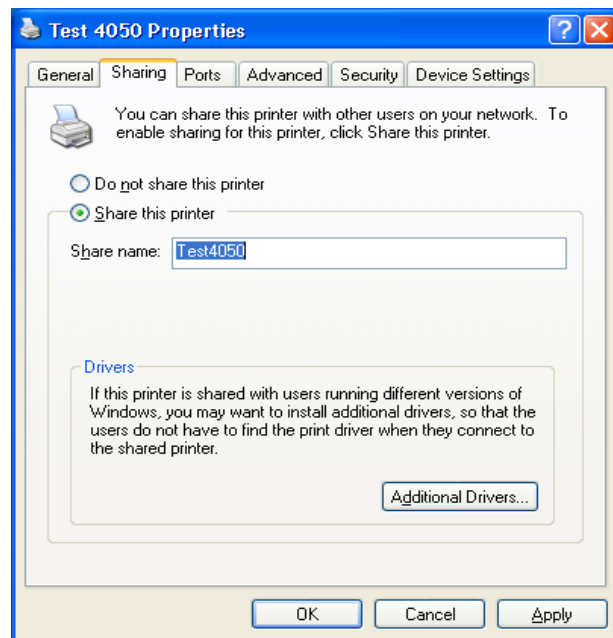


Figure 4. Sharing your printer in Windows XP.

to browse for a printer, select this option and click Next) is selected. Then type in `\\servername\printername`, using the servername and shared printername you wrote down a few minutes ago. Click *Next*. Depending on how your network is setup, you might be asked for a user name and password to give you access to the printer host PC. On the next screen, you can decide if you want to use this printer as the default printer. If it's the only printer you have, obviously it should be your default choice. To complete the wizard, click on *Finish*.

Now you can use this printer for all your Windows programs, but not yet for DOS programs like Q&A. In order to do that, make sure you know what printer port Q&A prints to. Again, you should select LPT2 or LPT3 in Q&A. I'll assume that you've chosen LPT3 in Q&A.

Click on *Start*, and then click *Run*. In the *Open* box, type *cmd*, then click *OK*. Type in the following line as a single line. (Substitute the computer's name that's acting as the printer host PC for "servername," and the printer's shared name for "printername"):

```
net use lpt3 \\servername\printername /
persistent:yes
```

Press Enter. The */persistent:yes* tells your computer to keep redirecting the output meant for LPT3 to the printer you've just specified. As a test, print something from Q&A.

Connecting to a printer shared by a print server card from a Windows XP PC

This is the least known and most exciting trick in this article. Many consultants aren't aware of it, so when you make this happen you can brag about it.

Make sure your printer is turned on and properly connected to your network. You need to know your printer's IP address. Run the *Add Printer Wizard*, and click *Next*. Select *Local printer attached to this computer*,

uncheck the *Automatically detect...* box if it's checked, and click *Next*. At the next screen, *Select a Printer Port*, click on the radio button *Create a new port* near the bottom of the window, and select *Standard TCP/IP port*. Click *Next*, and you'll start another Wizard — the *Add Standard TCP/IP Printer Port Wizard*. Once again, click *Next*. In the *Printer Name or IP address* box, type in the printer's IP address (which you jotted down earlier). If you typed in "192.168.0.17," for example, a port named *IP_192.168.0.17* will be created below (as shown in Figure 6). Click *Next* and then *Finish* to complete the Port wizard.

Back in the Printer wizard, make sure you choose the right manufacturer and printer to have the computer install the correct driver, then click *Next*. Select whether you want to use this printer as the default printer, and click *Next* again. Click *Finish*. You're not really finished. XP wants to know if you want to share this printer, so select *Share name*. I suggest giving the printer a share name of *QALPT3* for clarity. On the next screen, *Location and Comment*, you can type in a comment that says something like *Network Direct Printer, shared for me at LPT3*. Click *Next* and then print a test page, which will emerge from your printer only after clicking *Finish* on the next screen. Finally, click *OK* after the test page prints.

Are you finished yet? Of course not! You've just set up a printer shared by a Print Server card on the network to print for Windows applications. Now for the neat trick of getting the printer addressable for Q&A and other DOS programs.

First, get your computer name from *Start / Control Panel / System* on the Computer name tab. Close all windows, click *Start* then *Run*. In the *Open* box, type *cmd* and then click *OK*. Now type on one line:

```
net use lpt3 \\yourcomputername\QALPT3 /
persistent:yes
```

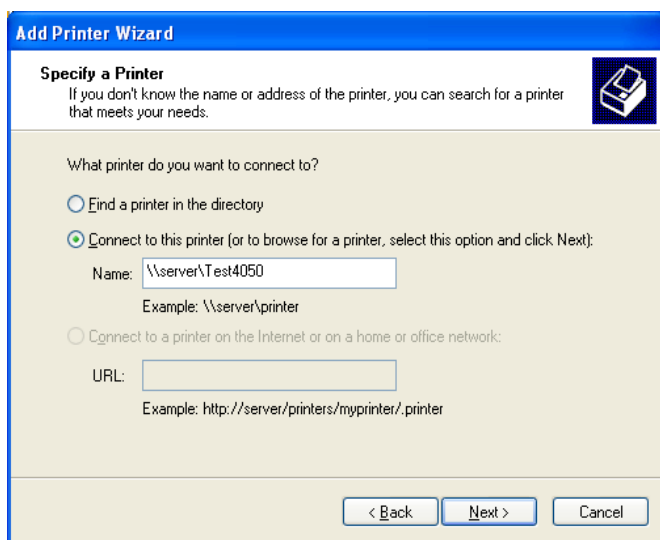


Figure 5. Using WinXP's Add Printer Wizard.

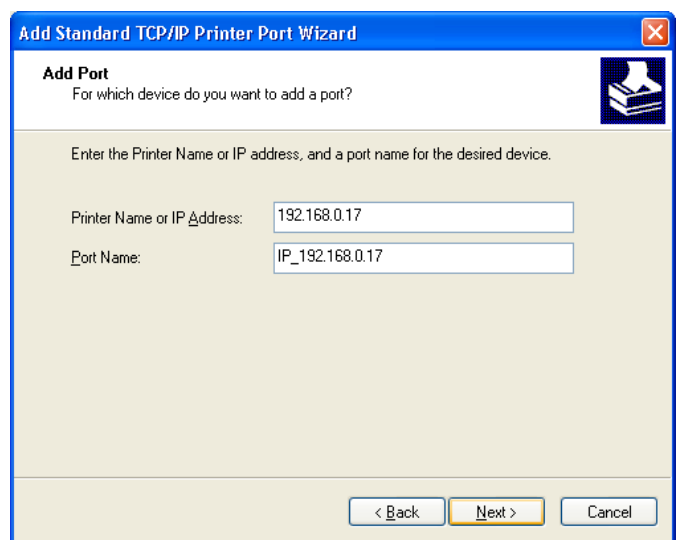


Figure 6. XP's Standard TCP/IP Printer Port wizard.

Unwanted Records cont'd from page 10

records shown in the report. What you do with these duplicates is now your call.

Finding blank fields that shouldn't be

Blank fields can be problematic in a database. For example, in a database of names, a record with no entry in the LASTNAME field is probably one that should be deleted. It is easy to check records for specific blank fields. At the Retrieve Spec in Search/Update mode, simply typing = (equals sign) in a field and pressing F10 will return all records where that field is blank.

Invalid entries

Sesame wants all database values to conform with the

fields' format types. Date fields must contain real dates; number fields only numbers; Yes/No fields only yes/no values. Q&A offers a special search parameter that finds incorrectly formatted entries. At the Retrieve Spec in Search/Update mode, type /.. (slash dot dot) in any field you want to check. Then press Ctrl-F7 and select those records that *DO* meet *ANY* of the restrictions. Presto! Q&A will hand over all the records with invalid entries for the format type in any of the specified fields.

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If you see the message, "The command completed successfully," you're almost home. Type in `dir > lpt3` and press Enter and your computer should print a directory listing to your network printer through the LPT3 port. Magic! You've just shared a network printer to yourself and redirected output through it. Type `exit` and hit the Enter key to leave the command prompt screen. Now start Q&A, make sure your printers are set for LPT3, and print something.

Other people can connect to your shared direct network printer, but it will be faster for them to do the whole process on their computers as well. Also, they don't need your computer to be on to print — and isn't that the beauty of network printing?

If you have any issues

Remember, more than 90% of problems go away when you reboot, so try that first. Follow the directions above for simplifying and locating the cause of your problem. Turn off your software firewall, and disable programs run automatically at bootup. Disabling bi-directional support for this printer (*Start / Printers and Faxes*, right-

click on your printer and select *Properties / Ports tab*, and check on the left near the bottom) can make a printer that never prints or only prints when you leave Q&A work as expected.

About the ladies room and network problems. It's a true story from a client's site. A sensor in the ladies room automatically turned on the overhead fluorescent lights whenever someone entered the room. An inexperienced technician had run the network cable directly above these lights. The EMI (electromagnetic interference) generated from them was sufficiently strong, and the network cable sufficiently close, to interfere with the cable's signal. Once the cable was rerouted, the network problems disappeared.

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