User's Manual

Dennis Baggott and Sons - 1994 - 2006

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1 Web Server for Problem Solved! 2007

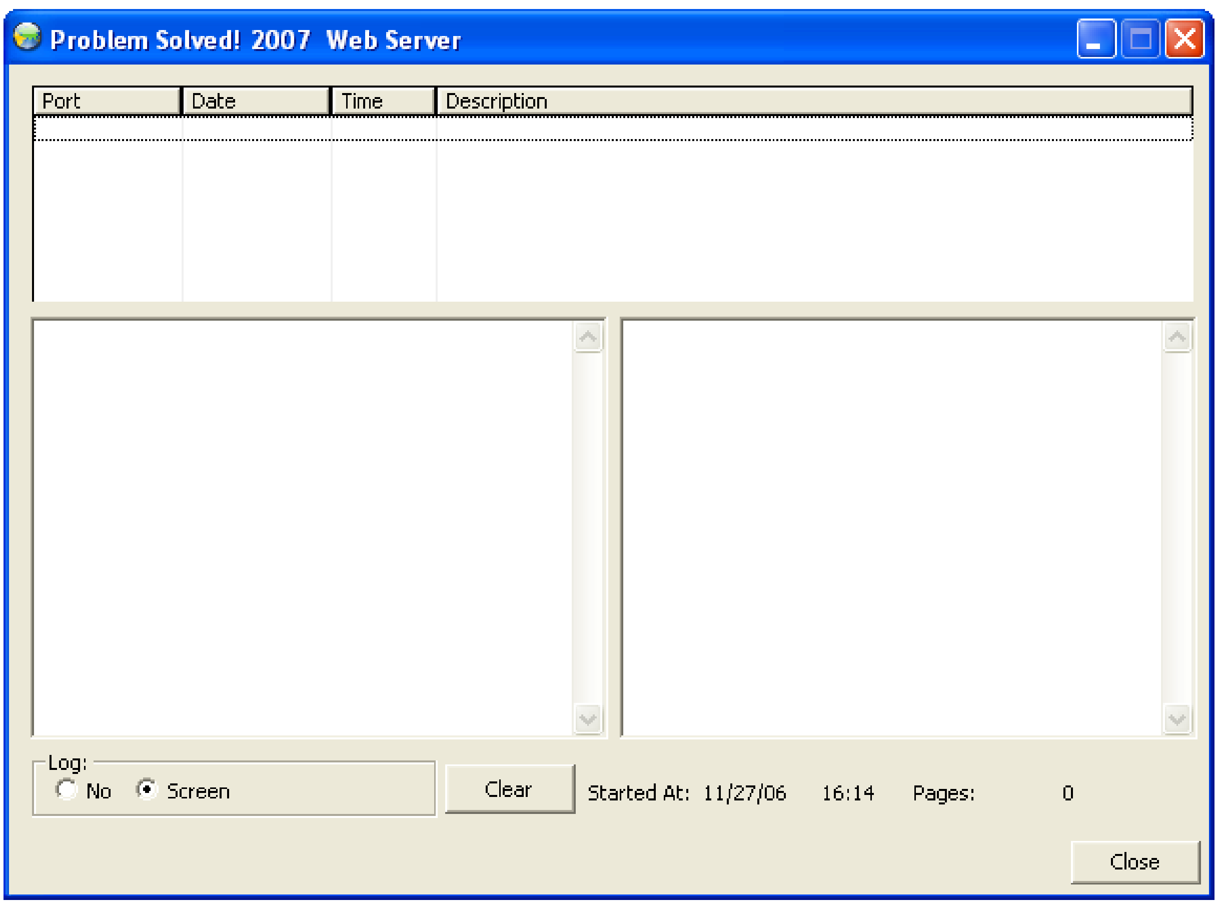
1.1 HTTP Server

The original version of Problem Solved! (in fact one of the reasons for the name) and all versions since 1.0, included a mini-http server. This allows anyone to serve web resources (most are not physical .html files, but generated by the .exe itself) without any knowledge of Java, CGI-Bin, Active Server Pages, or for that matter HTML. The HTTP Server does not require anything more than a static IP address that can be "pinged" from other computer on your LAN or via the Internet if the PC is connected via Cable Modem, etc to the internet.

This version includes a new web server. In this versions the URL is http://ipaddress:88 - you can test this on the computer where you are running the web server by using the address of http://localhost:88 - you will need to determine the IP address of the web server (use IPCONFIG from a command prompt) and will use the URL http://thatipaddress:88 from other computers. As long as the web server can be "pinged" from other computers, and port 88 is not blocked by a firewall you should be able to access the Problem Solved! 2007 Browser application.

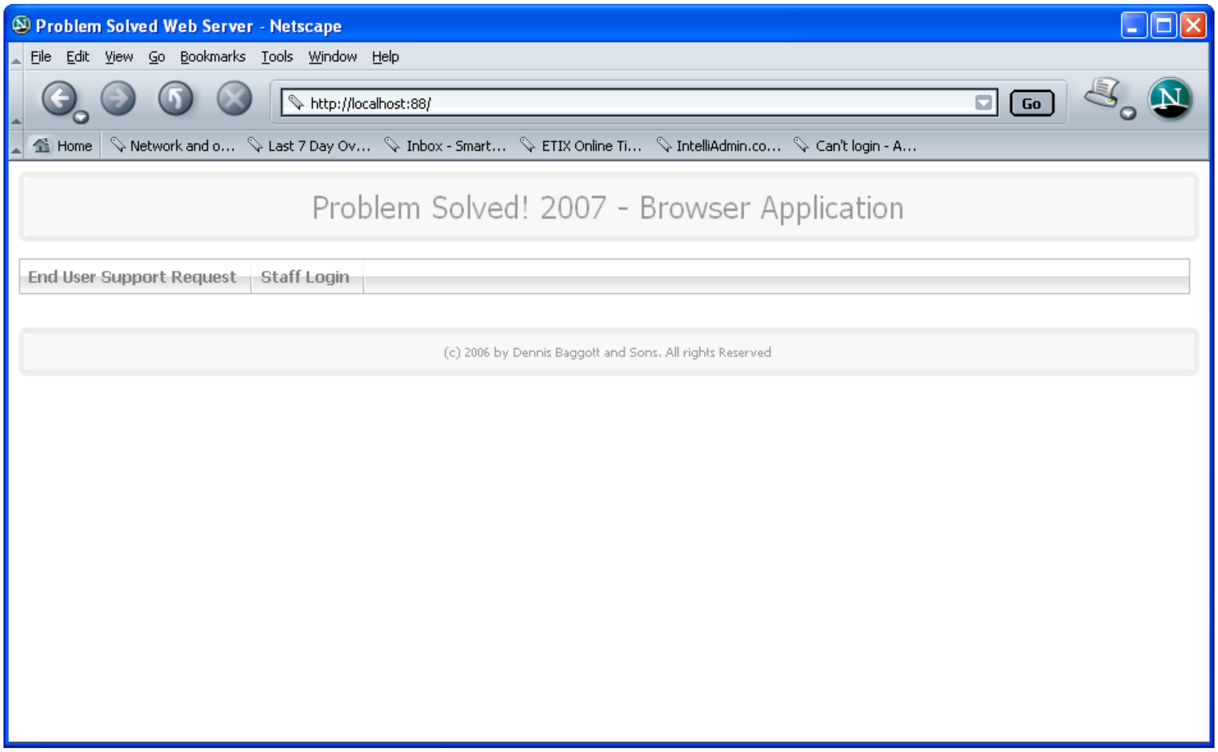
As long as the START IN property for the windows application and web server point to the same folder each will update the same database records.

When first launched the web server window will be shown as below:

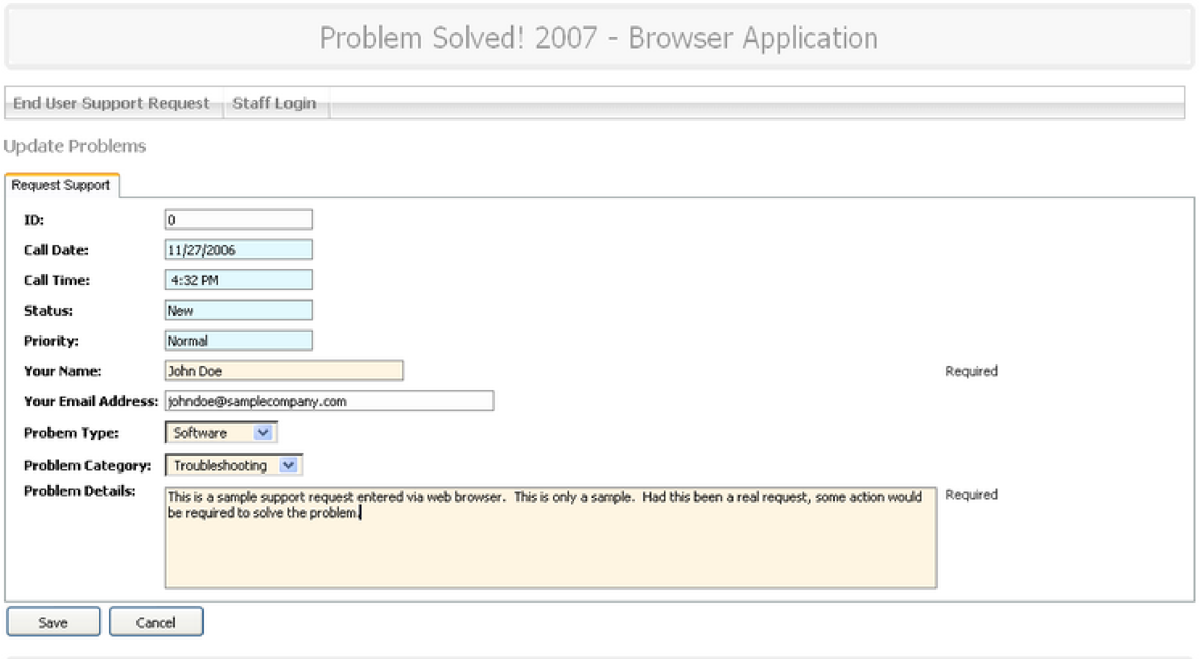


You will want to minimize this screen, but don't close it or the web server will be unavailable. As the server "serves" resources you can see activity on the web server window (this gets boring pretty quickly, but watch it to see what is happening if you like.

The browsed interface looks like the screen below:



If you let your end users submit support requests, they can click on the End User Support Request option and see a screen like below.



The first few fields are read only. The Call Date and Time are filled in based on the current date and time. The Status field will default to New and the Priority field will default to Normal. The requestor must fill in their name, the email address is optional. The requestor must also select a Problem Type and Category and of course the Request Details field is required.

If the users clicks the Save button a page named added.htm will be displayed (you may edit this page). If the user clicks the Cancel button a cancel.htm page will be displayed (you may edit that page as well).

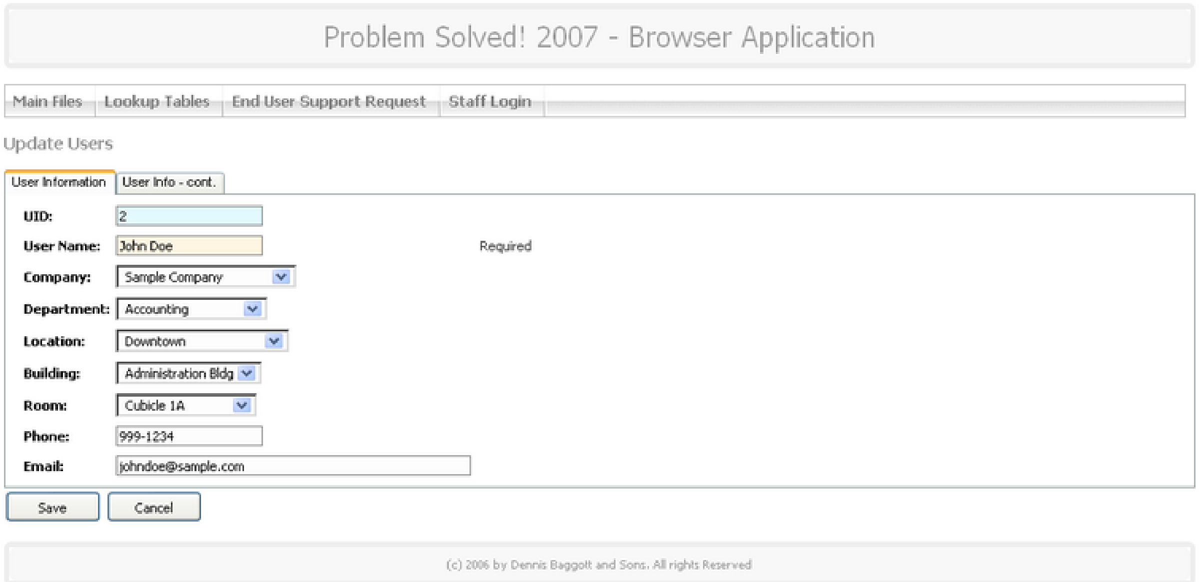
The staff login will by default be "admin" with a password of "admin". You can change these values by editing the ps2007web.ini file.

The next screen is displayed when you login to the staff menu.

There are drop down menus for the Main Files as well as many of the Lookup Tables.

First is the end users table. Like most of the browse screens you can sort by clicking on a column header and search for part of the text in the sorted field. I have used this sort feature to find the record for John Doe.

You can click the highlighted ID field to view the update screen for the selected record, or highlight a row and click the Change button. Also, if a hyperlink is to a web site, clicking the hyperlink will launch your web browser. If a hyperlink is to an email address, clicking the hyperlink should start your email client software. In the screen below I am editing the user record.

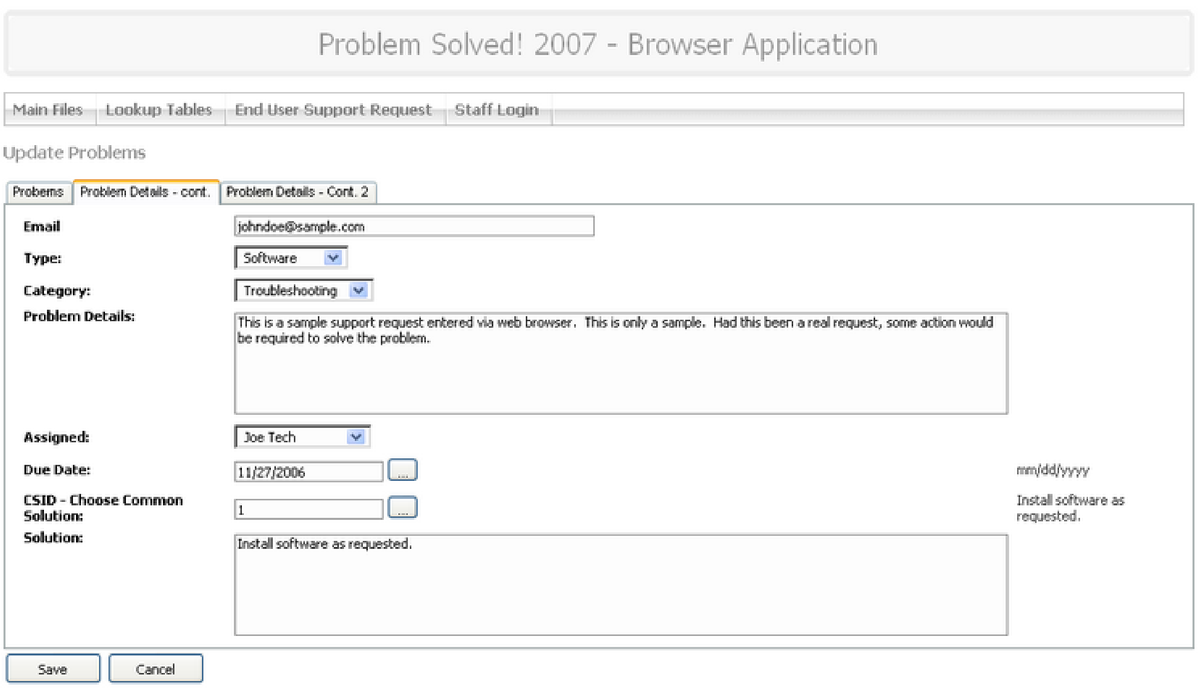


There are two notebook style tabs. Also notice there are drop down boxes since many values can be looked up using lookup tables.

You may have noticed two menu options for Problems, one with No Refresh. It may be that you have the luxury of a little used computer in your office. You may want to keep the problems screen open and have it automatically "refresh". This would display new rows as requests are submitted by end users (or it may be updated if you have a staff and they are updating requests throughout the day. The no refresh browse screen is for those who find the refreshing a nuisance. Either way the screens are very similar. Lets look at the problems browse screen.

As with other browse screens you can sort on a column header and search on the sorted column. If you are letting end users request support via browser, some fields are not going to be filled in - since they can't choose their name from a drop down list or browse screen. So when you edit a request submitted by a user you may first want to re-select their name - this will populate other fields from the users table - assuming you have already added the user information.

Notice I have clicked the ... button next to the user name and field in the additional user fields. I have used the drop down list to change the status to Active (if needed I could have changed the priority of the problem as well). Now I click on the second notebook style tab.



This screen lets me change the Request Type and Category if I like. The next drop down box will let me assign a technician. I can enter a due date or click the ... button to use the calendar picker.

NOTE: The CSID field is new, Click that button and you can choose from common solutions. After selecting a common solution, the Solution field for the problem will be filled in for you. Or you can manually type the solution to the problem.

The third and final tab is shown below.

Here I can enter the Date and Time Solved, Time to Fix and Completed by information.

The other web pages work pretty much the same. Remember you can save time by using .. lookup buttons for Computer, Software and Peripherals just as this saved time completing a problem record.

I hope you will find the new web server easy to implement, and useful either for end users to request support, or for you and your staff to be able to update the database via browser from any computer that can ping the web server. As always I welcome comments, suggestions and questions. Write to me at dbandsons@aol.com

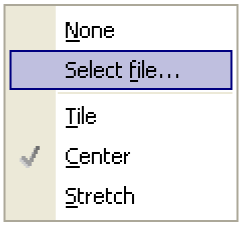
2 Windows Application

2.1 New in Version 4.6 and 2006 and 2007

This version includes a number of changes to the screens in order to make the program easier to use as well as more attractive. New import buttons on the main files browse screens let you import data from a wider variety of data sources. The Query Wizard and Report Wizard are also much improved. The browse screen for problems now includes a Style Manager to let you create different styles to indicate records with certain conditions. A new Task Bar provides an alternative way to navigate the program for those that don't want to use the standard drop down menu options.

Version 2007 added Location, Building and Room fields to several tables. This means that users of earlier versions may need to export their data and then import it the new Problem Solved! 2007 tables. However, I believe that these additional fields will be used by many organizations and so I felt the database structure changes worth while.

I have provided a way in version 2007 to let you select your own background for the main frame of the application to personalize the application a little bit, as I have done Just choose the Window, Desktop option, Select a File and choose Tile, Center or Stretch.



(my oldest playing baseball)

or

my youngest (number 51) playing football.

Version 2007 added a Common Solutions Table. This can be used to lookup those frequent solutions like "reset password", "installed software". This may save some users a little typing.

Version 2007 added a Problem History tab to allow you to track multiple actions on the same basic problem. I am not sure how many will use this feature, or how often, but some may find it useful.

Version 2006 added a number of Chart options to allow you quick insights. A new Send Email button has been added to the screen for updating problems. This button will allow you to quickly send an email after updating a problem record.

Version 2006 added a Locate entry box to some of the browse screens. When you have sorted the browse screen a column (except for Date or Time Fields) you can type the first few characters you want to search that column for and when you press TAB or Enter the browse screen will move to the first matching record.

The Update Users screen has been changed in Version 2006 to add a notebook style tab with the problems or support requests submitted by that user. This may make it even easier for organizations with a large number of users to quickly view a history of the users problems.

The spreadsheet wizards from earlier versions have been supplemented with an Output to XLS button on the main browse screens. I hope this will be useful to you. *In version 2006 I added back a number of spreadsheet wizards that had been removed in 4.6 - some may still prefer the Output to XLS button.*

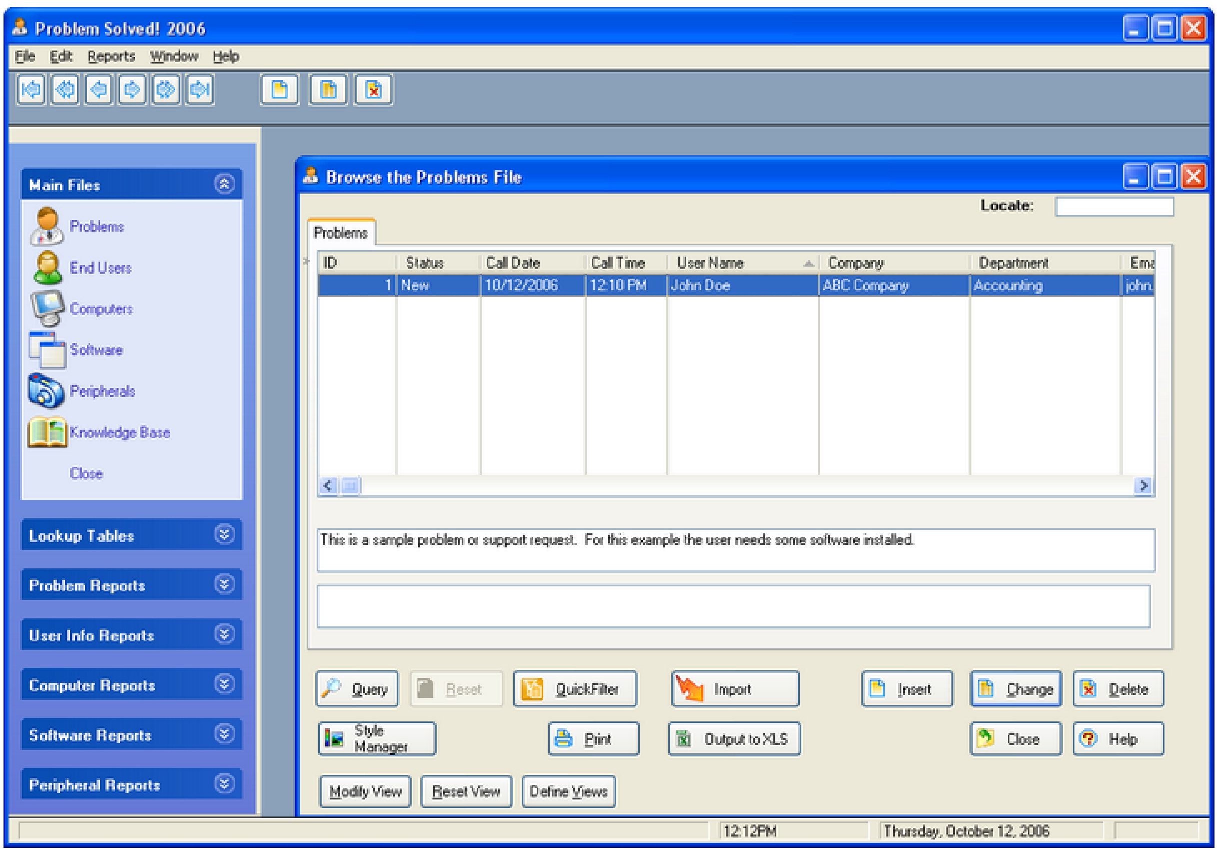
The data files for this version are compatible with version 4.0 with the exception of the manufacturers table. I did not feel this single file difference was enough to warrant a full version upgrade number, and hope it is not too big an inconvenience to registered users of the earlier version.

This is a free upgrade to registered users of any earlier version of Problem Solved! however, a new password (registration key) will be required. If you are a registered user but have not yet received an email from me with your new key, please email dbandsons@aol.com with information to let me verify your purchase and I will email you back a new registration key as soon as possible.

A lot of work has gone into making this new version the best so far, and I hope you will feel it has been worth the effort. I welcome your comments, positive of negative at dbandsons@aol.com

2.2 Problem Solved 2007 Windows Application

There are two components to Problem Solved! (c). The one you will use most often is the windows based interface. The mini http server allows your users to submit support requests via browser and also allows technicians to view and update data via browser. The screen below gives you an idea of the new look in version 2006. If you have used an earlier version of Problem Solved! you will immediately see some changes, but the interface should not be that unfamiliar to you.



Problem Solved! 2006 is a multi-user capable application with no additional per user charges. If you have multiple users that will be accessing the same database you would want each technician to perform a default installation - this will put the .exe, .dll files, etc on the local hard drive. Then, change the START IN properties for the shortcut created by the installation to a shared folder on the server. The data files all end with .tps and these file have automatic record locking built in. The database format is an ISAM database - Indexed Sequential Access Mode - and so with multiple users performance will depend a lot on certain settings on your workstation and server. Opportunistic Record Locking should be turned off at both the workstation and server. More information later on that topic. NOTE: Problem Solved! is set to look for other copies of the program running on your LAN. If each installed copy has the same START IN property so that each copy is running using the same database files, changed entered on one workstation would be reflected on browse screens on the other workstation(s). This feature may alert your firewall when you first start the program. Allow the application to run - it is not trying to report back to me, OK? Now changes entered via the web browser if you will be using the mini http server will not be automatically displayed in the windows application. The http server has not been updated since version 4.0 - and I don't expect to upgrade it during 2006. (Updated for Problem Solved! 2007 - see separate help file topic.

2.3 Installation

By default, the installation routine will want you to install the program to C:Program Files\PS2007- however, you can change to a different directory.

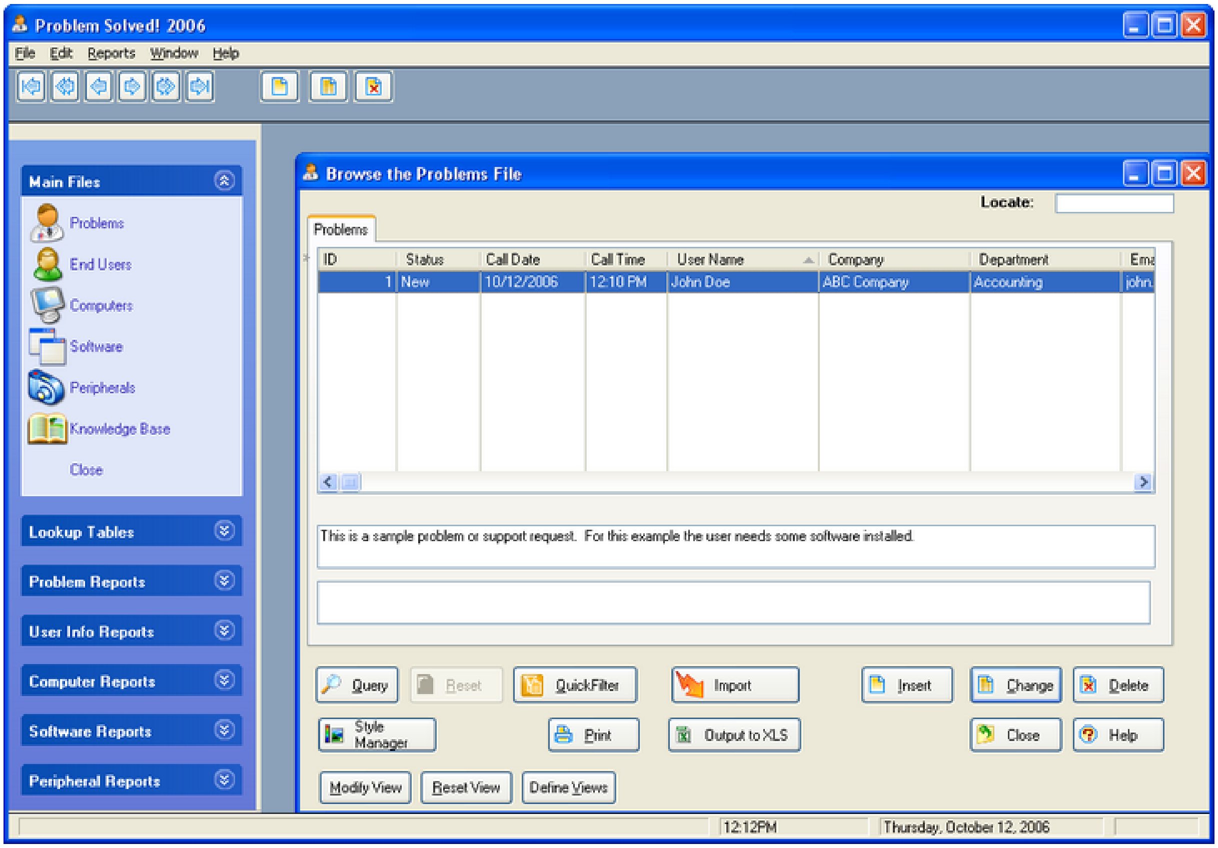
This program can be used in a multi user environment. My recommendation, if you are setting this program up for shared use among multiple technicians, is to have each of them do a standard installation accepting the defaults. Then, create a folder on the server they each have access to and from one of the PCs, (preferably the one with the most data) copy the files that end with .tps from your C:\program files\ps2007 folder to your new folder on the server. I suggest mapping a drive letter to that folder from each workstation and use the same drive letter for each person running Problem Solved! (P: S: whatever letter you want, but you may want to be consistent.

The installation will have created a START IN property for the shortcuts on your technicians Start Menu and desktop which point to C:\Program Files\PS2007 just have them change that START IN property to point to the new directory on your server. The next time they start the program, they will all be sharing the same data. Records updated by one technician will be visible to the others.

As always, if you need help please send an email to me at dennis@dbandsons.com or dennis@lnsoftware.com and I will try to respond promptly. NOTE: You do not have to have registered the program to request support. In fact, I really don't want anyone to purchase a site license for any of my programs if they don't feel it meets their needs. That is why all of my programs are available as fully functional 30 day trial versions.

2.4 Main Menu

Version 2006 has the standard drop down menu that you have seen in most applications designed for Microsoft's Windows, however, this version adds task panel. Choosing one of the options from the task panel will perform the same functions as the corresponding item on the standard drop down menus.

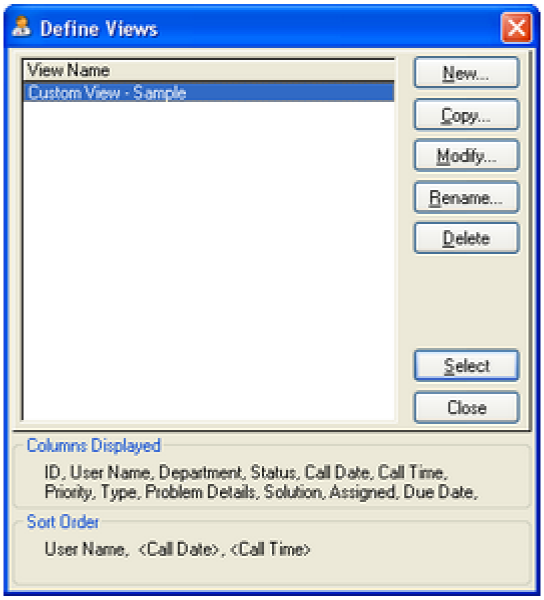


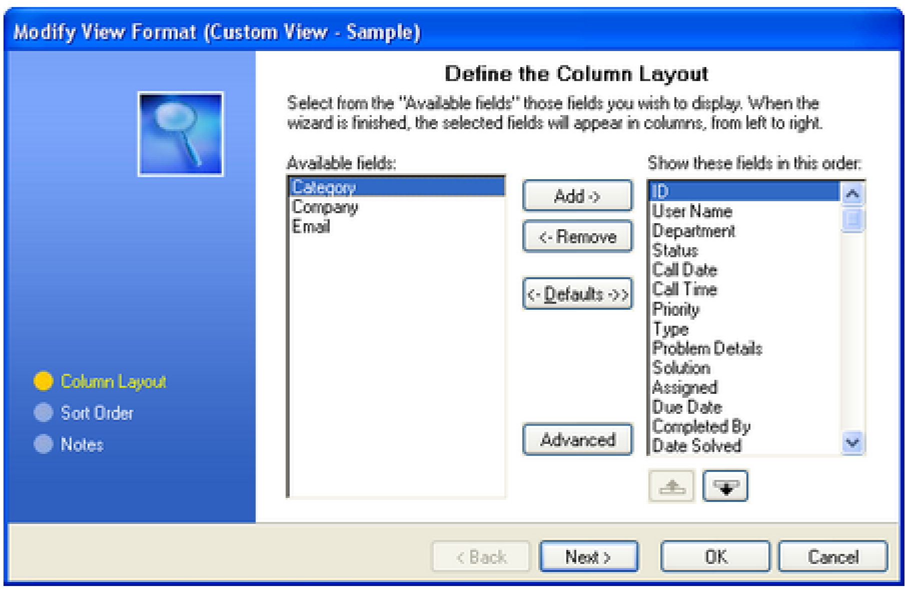
2.5 Browse and Update Screens

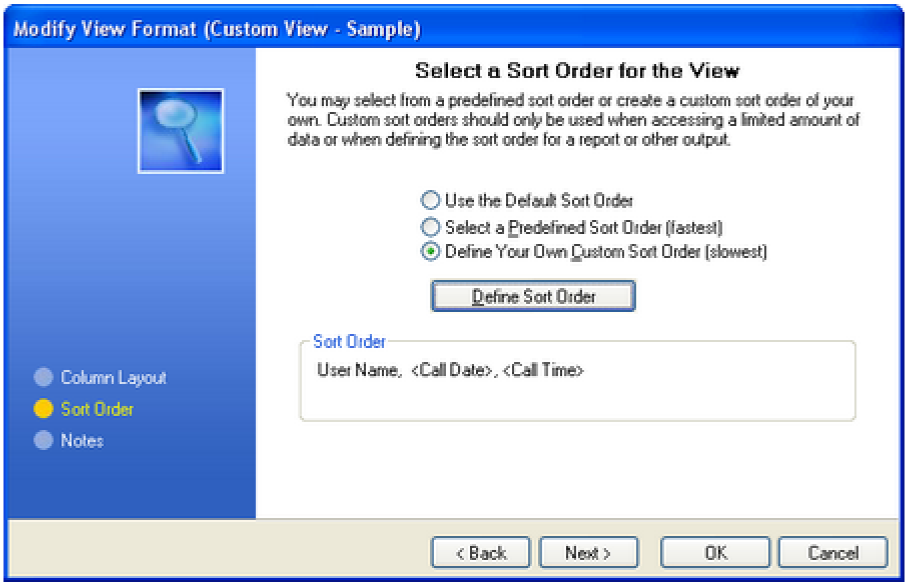
Throughout the program you can view many records at a time in Browse style screens where the records are presented in rows and columns like a spreadsheet. When you edit or add a new record the update screen is more like a fill in the blank form where you move from field to field after entering data by pressing the Enter or Tab key.

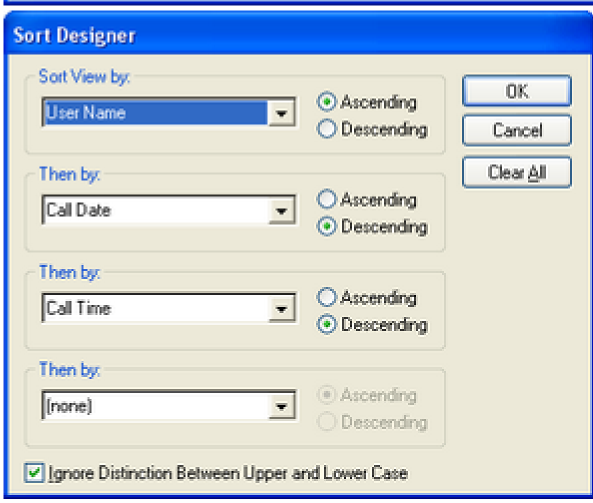
On most browse screens you can sort on a column by clicking on the column header. Click the same column header again to sort in the opposite direction.

This version includes a View Wizard to let you define the columns you want displayed, rename column headings, and choose multiple columns for sorting purposes. The Modify View button will let you change the View currently in use, the Reset View restores the browse to "factory default settings", and the Define View button let's you create a new View, or select, modify, or delete a View. See screen shots below for to see how the browse screens with Views can be customized.


Define Views
View Name
Custom View - Sample
New...
Copy...
Modify...
Rename...
Delete
Select
Close
Columns Displayed
ID, User Name, Department, Status, Call Date, Call Time,
Priority, Type, Problem Details, Solution, Assigned, Due Date,
Sort Order
User Name, <Call Date>, <Call Time>


Modify View Format (Custom View - Sample)
Define the Column Layout
Select from the "Available fields" those fields you wish to display. When the wizard is finished, the selected fields will appear in columns, from left to right.
Available fields:
Category
Company
Email
Add ->
<- Remove
<- Defaults ->>
Advanced
Show these fields in this order:
ID
User Name
Department
Status
Call Date
Call Time
Priority
Type
Problem Details
Solution
Assigned
Due Date
Completed By
Date Solved
Column Layout
Sort Order
Notes
< Back
Next >
OK
Cancel





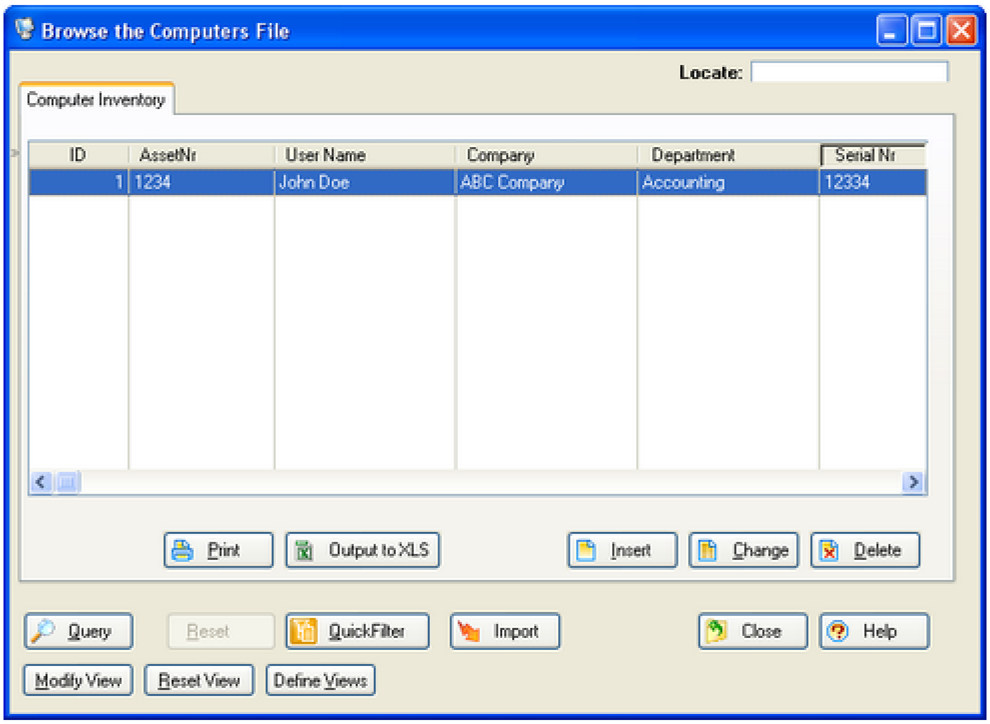
The update screens are like fill in the blank style paper forms. You use the TAB or ENTER key to move from field to field adding or changing information about the individual record. Certain fields are required, and if you are trying to add a new record, but leave one of these fields blank you won't be able to save the record. As you move through fields on an update screen, the field will be highlighted in yellow if it is a required field, otherwise it will be highlighted in gray.

2.6 Browse Computers

Browse the Computers File

To sort on a column click the column header. Right clicking on a column header will pop up a menu with options for that column.

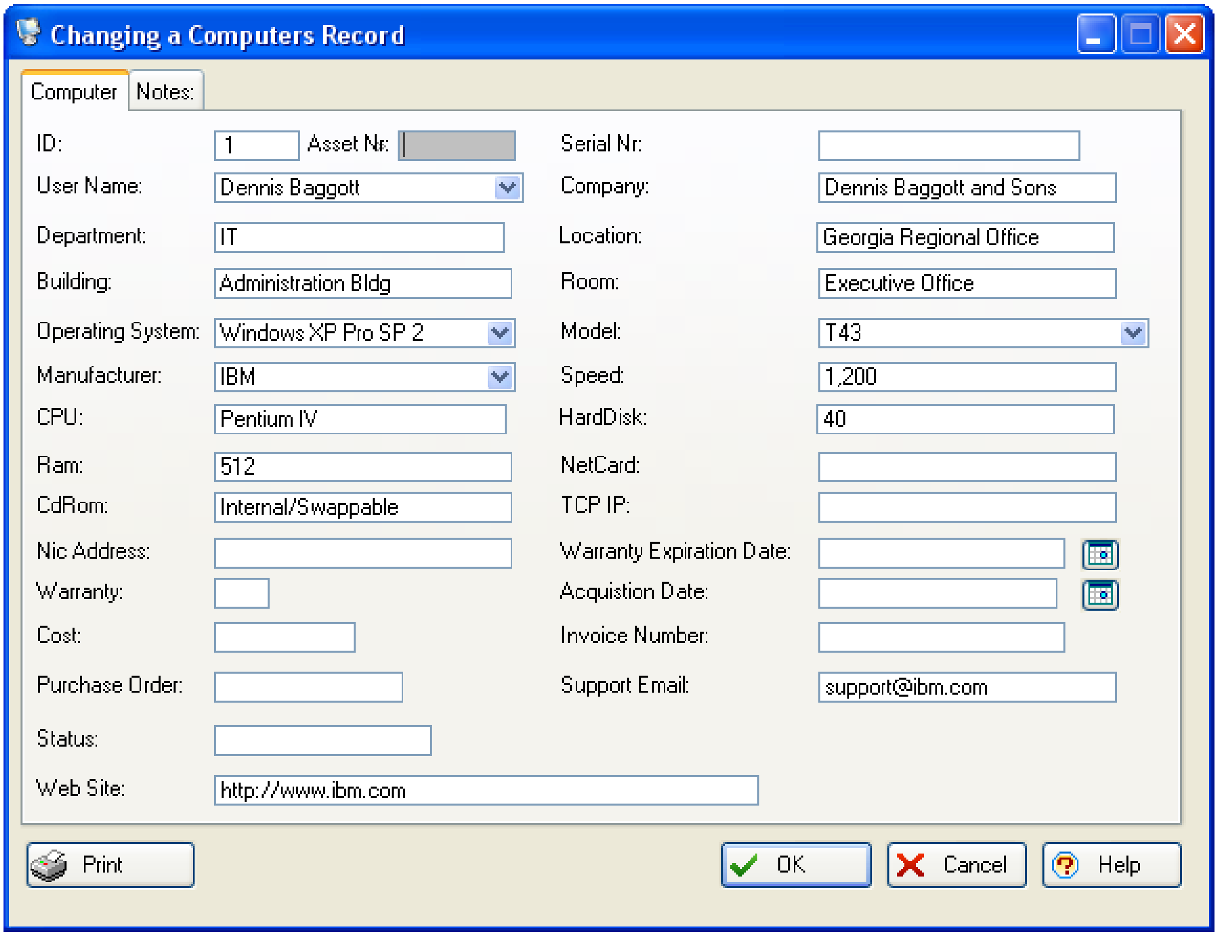
You may also click and drag a column to move it right or left. You may find the View buttons helpful in creating reusable views of the data in the browse screen.



This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. You can hold the ctrl key down and click additional column headers to create a multi column sort. An Import button is provided to let you import from a variety of data sources.

2.7 Update Computers

Update the Computers File

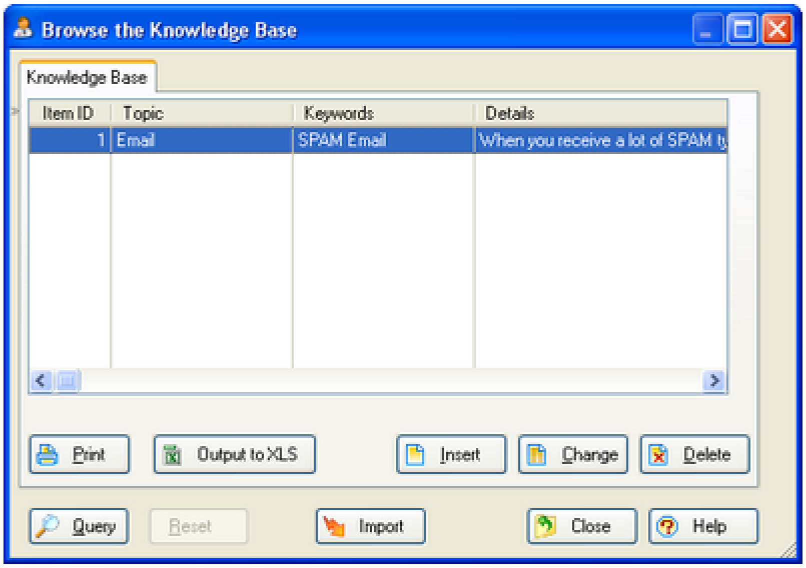


This screen is used to update information about each computer in your inventory. A unique ID will be created each time you add a computer record. You may then want to enter an Asset Tag number and Serial number. When you select the person assigned the computer from the drop down list, that user's department and company (if any) will be filled in automatically. You can then select the Manufacturer and Model from the drop down list boxes. You can then enter the CPU type (Pentium III, P4, etc) and the processor speed. Fields are provided to let you enter the amount of installed RAM and the size of the hard disk. You can also record specifics about the CD Rom Drive, network card, NIC and TCP/IP Addresses. You may want to indicate if the computer is under warranty (Y) or not (N). If under warranty enter the date or select it using the date picker. You may next want to enter the cost of the computer and the date acquired. Some will find it useful to enter the Purchase Order and Invoice Numbers. Finally, fields are provided to let you enter the status of the PC (active, in repair, etc.) and also support email address and web site.

Version 2007 added Location, Building and Room fields.

2.8 Browse Knowledge

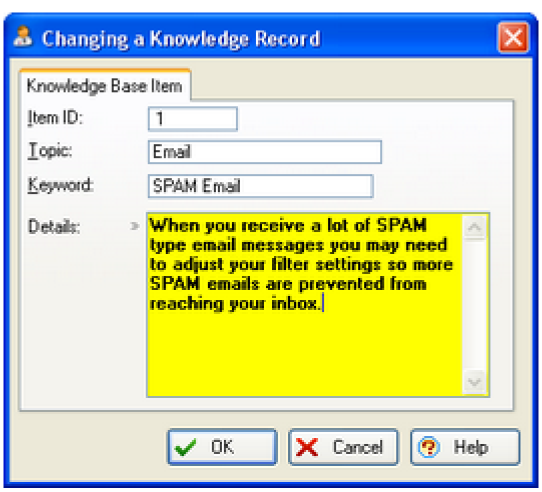
Browse the Knowledge Base File



This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. You can hold the ctrl key down and click additional column headers to create a multi column sort. An Import button is provided to let you import from a variety of data sources.

2.9 Update Knowledge

Update the Knowledge File



This screen is used to update the knowledge base. Sorry, there is no canned knowledge base data.

You will need to enter or import your own knowledge base items.

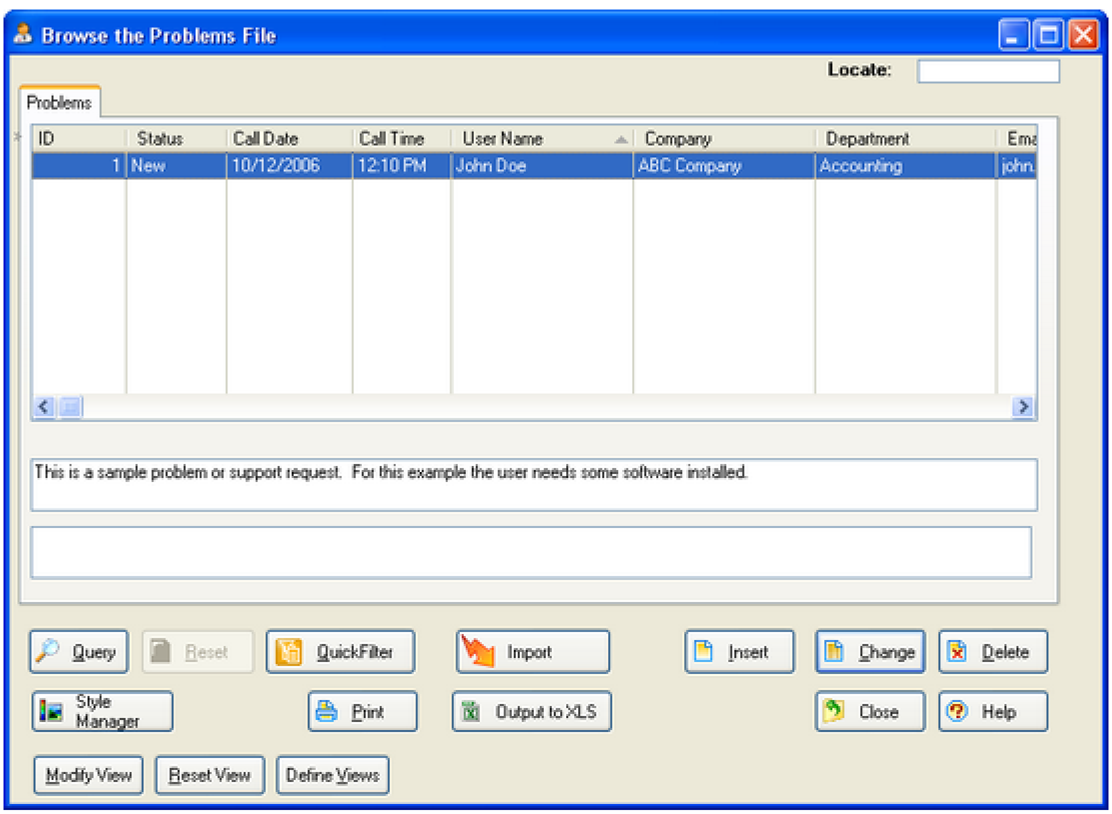
2.10 Browse Problems

Browse the Problems File

This screen is used to view problems and has changed quite a bit in this version. Underneath the list of problems are two large text boxes. The first displays the problem details and the next the solution for the problem currently selected in the browse list.
To sort on a column click the column header. Right clicking on a column header will pop up a menu with options for that column.

You may also click and drag a column to move it right or left. You may find the View buttons helpful in creating reusable views of the data in the browse screen.

This is probably the screen you will use most often. It provides a spreadsheet style view of problems. If you have other technicians updating the database using either the windows application of the browser interface, or if you allow user to submit problems via browser, this screen will refresh periodically and display new problems or problems with a changed status. A Locate box has been added in version 2006. When you are sorted on a column (other than Date or Time fields) you can enter the first few characters to search for and press the TAB key to zoom to the first matching entry.



This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. Version 2006 added a View Wizard to make it easier to customize this screen. An Import button is provided to let you import from a variety of data sources.

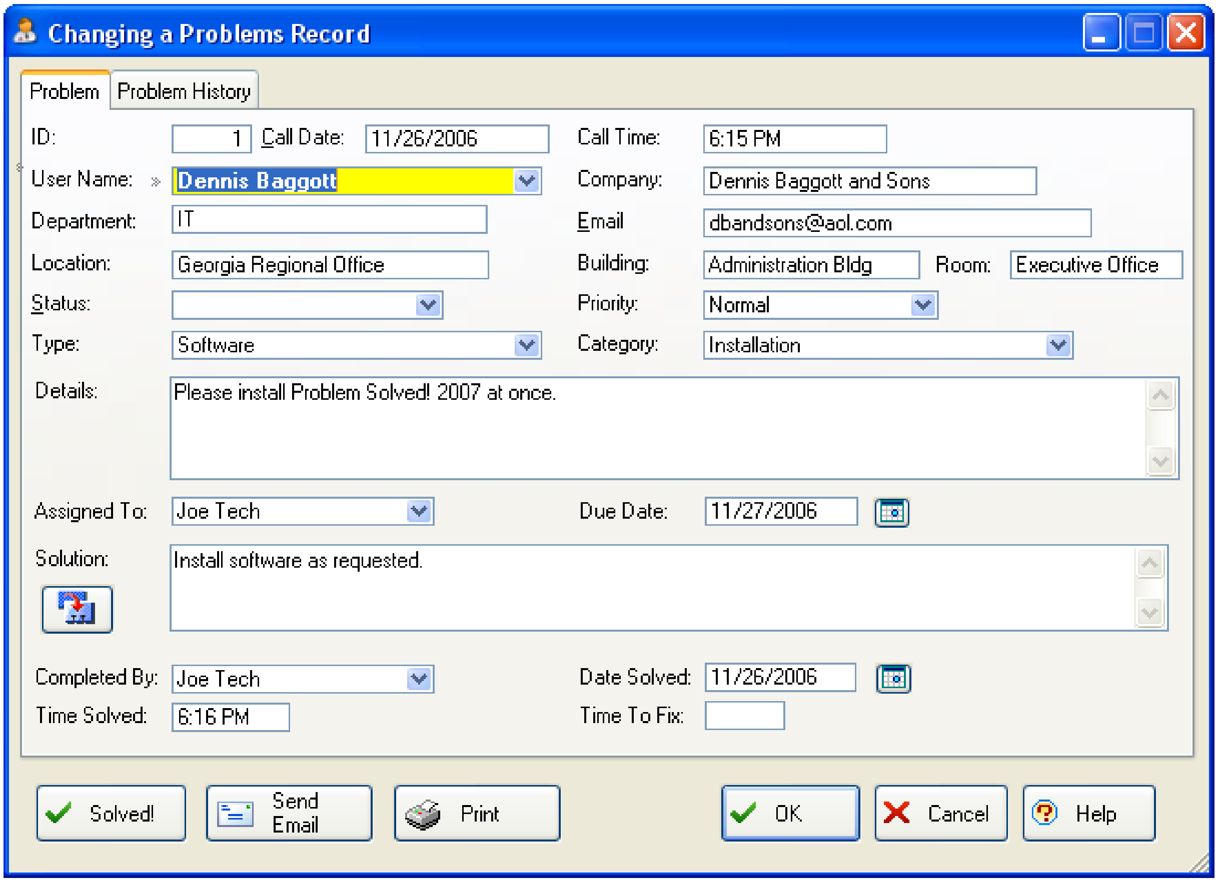
In addition to the standard Query button there is also a Quick Filter button. This is handy for those time when you only want to search one field and you know the value you want to search for ahead of time. The quick filter uses only the Equal To option so will not let you search for a partial value.

The Style Manager button is unique to this browse screen. It will let you set colors and fonts based on conditions you specified.

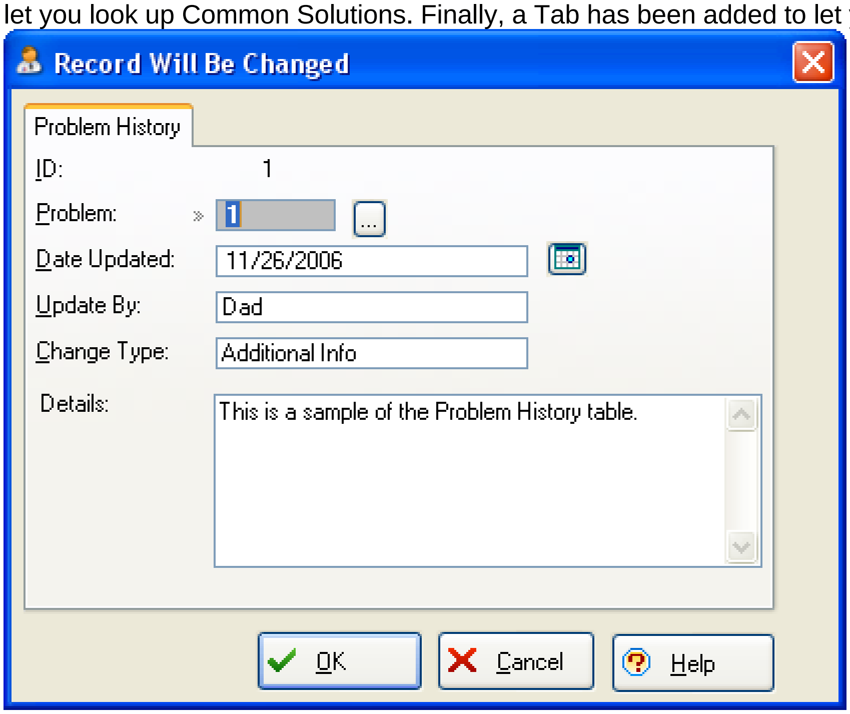
2.11 Update Problems

Update the Problems File

Each time a problem record is added an ID number is automatically generated based on the last number used. The Call Date and Call Time fields are filled with the system date and time. When you then select the user name from the drop down list, the Company (if any), Department and Email address are automatically looked up and filled based on the information in the user information table. The Problem Status field is automatically filled with the value of "New" and the Priority field is automatically set as "Normal". The next step would be to select the request Type and request Category from those drop down list boxes. You will then record the details of the problem. A list box is provided to let you assign a technician to the problem. You can either enter an optional Due Date by typing in the date, or click the calendar icon to pop up a date picker.



NOTE: Version 2006 added Location, Building and Room number fields. Also a button is provided to let you look up Common Solutions. Finally, a Tab has been added to let you record a "problem history".



This is for those time when a problem seems to have been solved, but further action is required. Some my not use this option, but for others it may be helpful

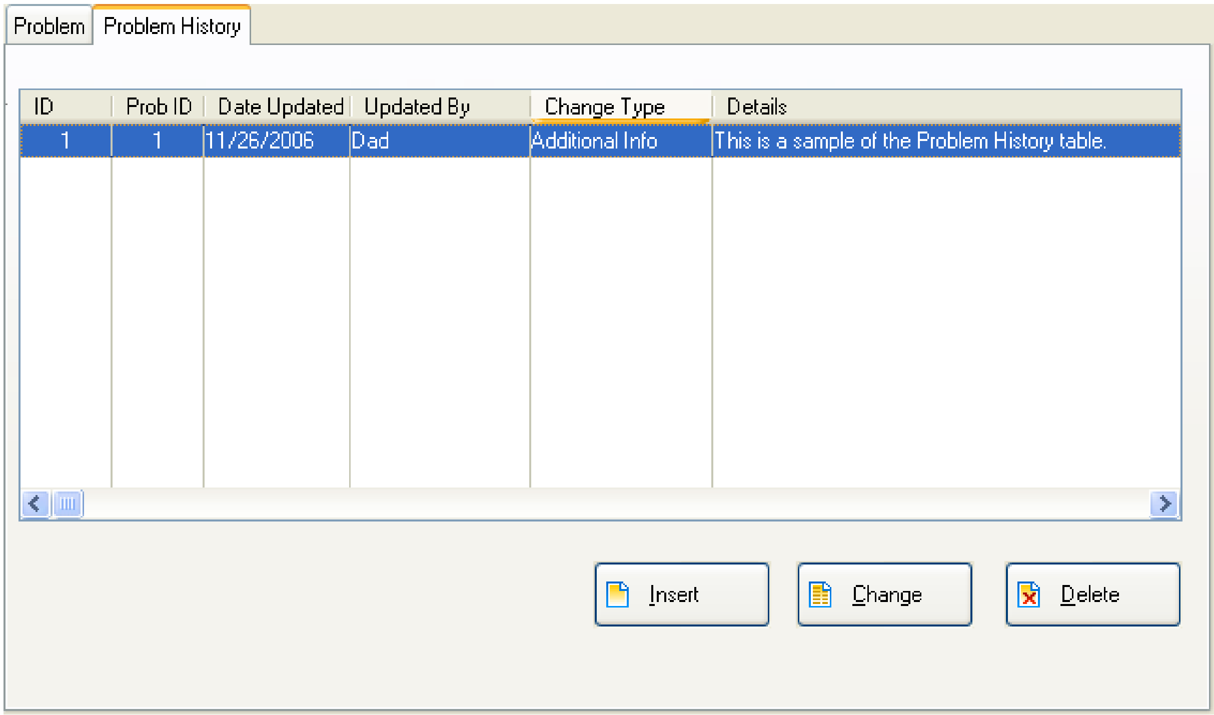
After solving a problem, you can record the action taken in the Solution text box. If you then click the Solved! button
the Completed By field will be filled in from the value in the Assigned To field (or you can select the name from the drop down list box), the Date Solved and Time Solved will be filled in based on the system date and time. The Time To Fix field is provided for you to record the amount of time required to solve the problem. This time is NOT automatically calculated.

Version 2006 of Problem Solved! added a Send Email button. This will launch your default email program with an email addressed to the Requestor. The subject of the email will contain as much of the Problem Details field as will fit and the Solution will be used for the body of the email. You can edit the email before you send it.

Click the OK button to save your changes, the Cancel button if you don't want to save the changes, and the Help button to see this information.

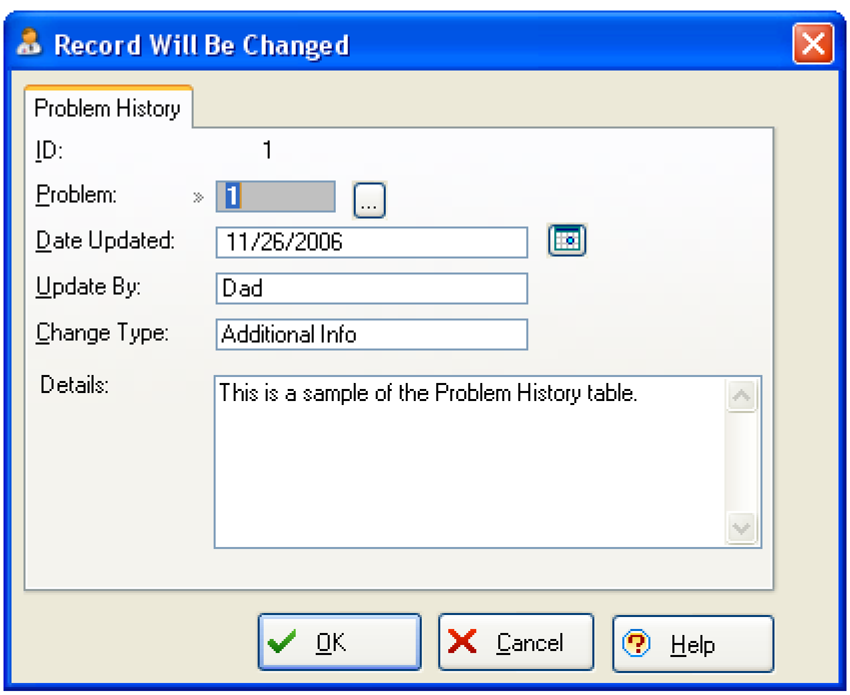
2.12 Browse Problem History

This screen lets you view any history that has been added for a problem, or add a new item. It is available from the Update Problem form.



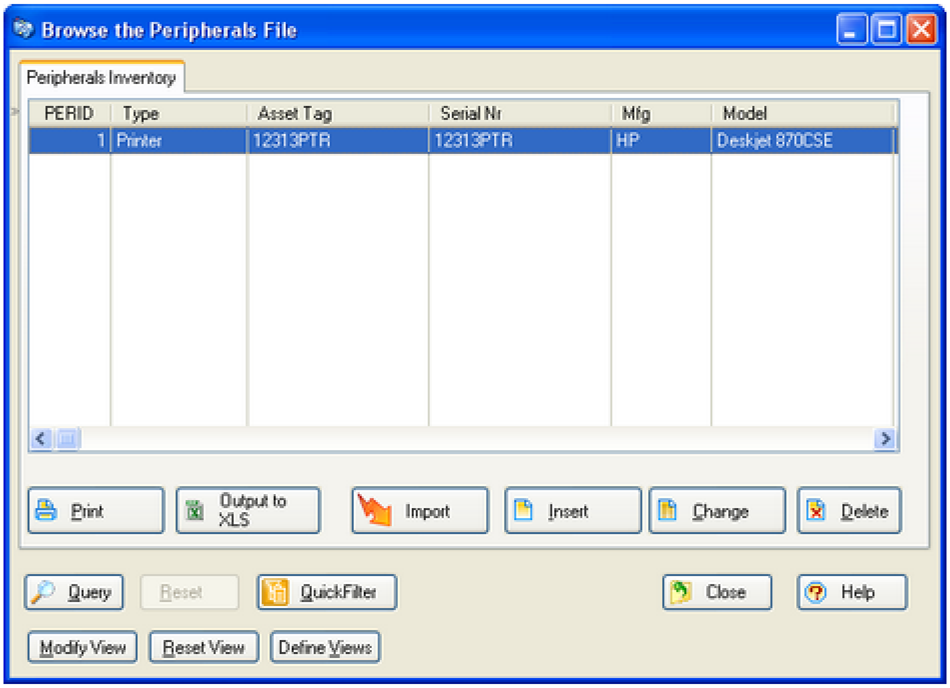
2.13 Update Problem History

This screen lets you add or change and item of history related to a problem.



2.14 Browse Peripherals

Browse the Peripherals File



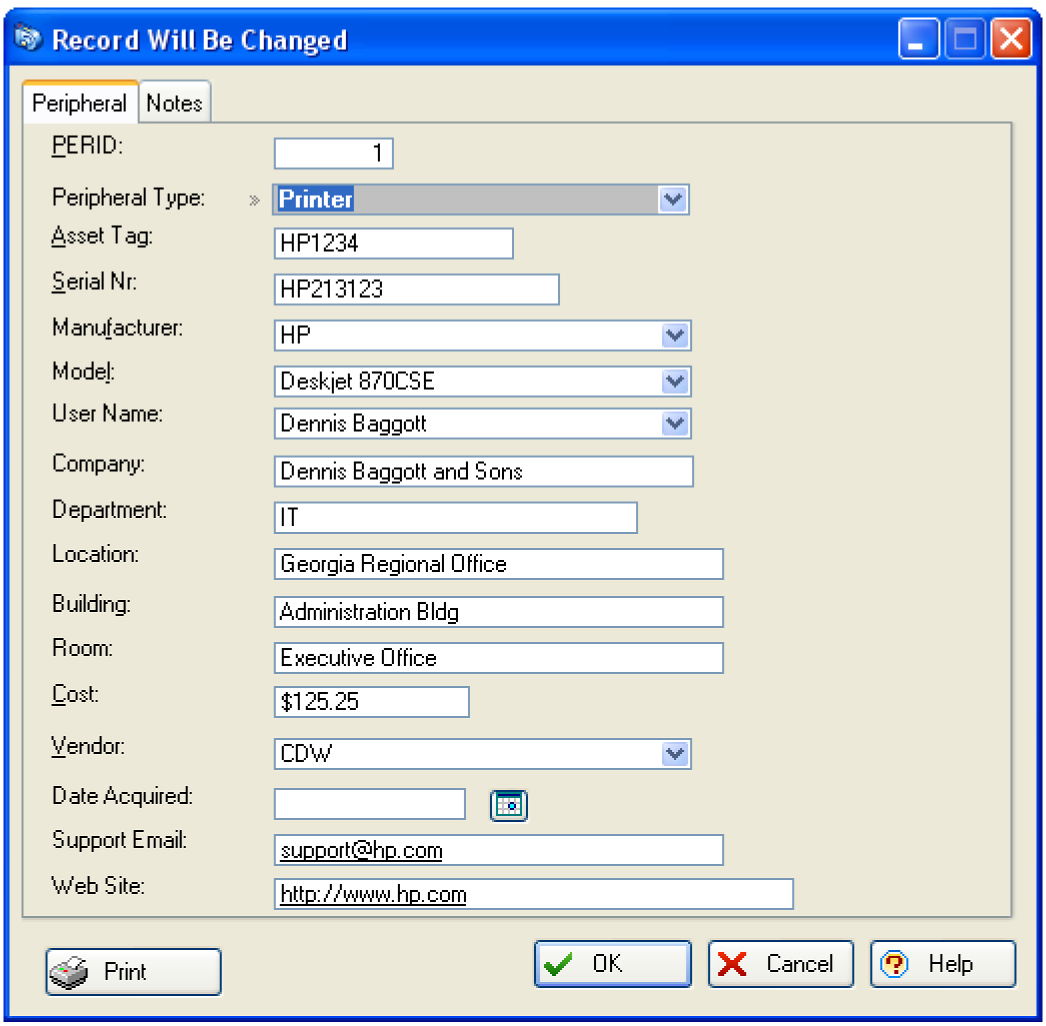
This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. To sort on a column click the column header. Right clicking on a column header will pop up a menu with options for that column.

You may also click and drag a column to move it right or left. You may find the View buttons helpful in creating reusable views of the data in the browse screen.
An Import button is provided to let you import from a variety of data sources.

2.15 Update Peripherals

Update the Peripherals File

This screen is used to add or edit peripherals information. A unique ID is created each time you add a record. The first field let's you specify a type of peripheral such as printer, scanner, digital camera and so on. You may then enter an Asset Tag number and Serial number to identify each peripherals. The Manufacturer and Model can each be selected by choosing a value from the drop down list boxes, or type a new value and this will be added to the lookup table. When you select a User Name from the drop down list, the user's company name (if any) and department will be filled in automatically from the related users table. You can then enter the cost of the time. The vendor name can then be selected from the Vendors table. You may optionally enter the date the peripheral was acquired. Finally, fields are provided to enter the support email and web sites for the item. An additional tab is provided to let you record any other notes about the item.



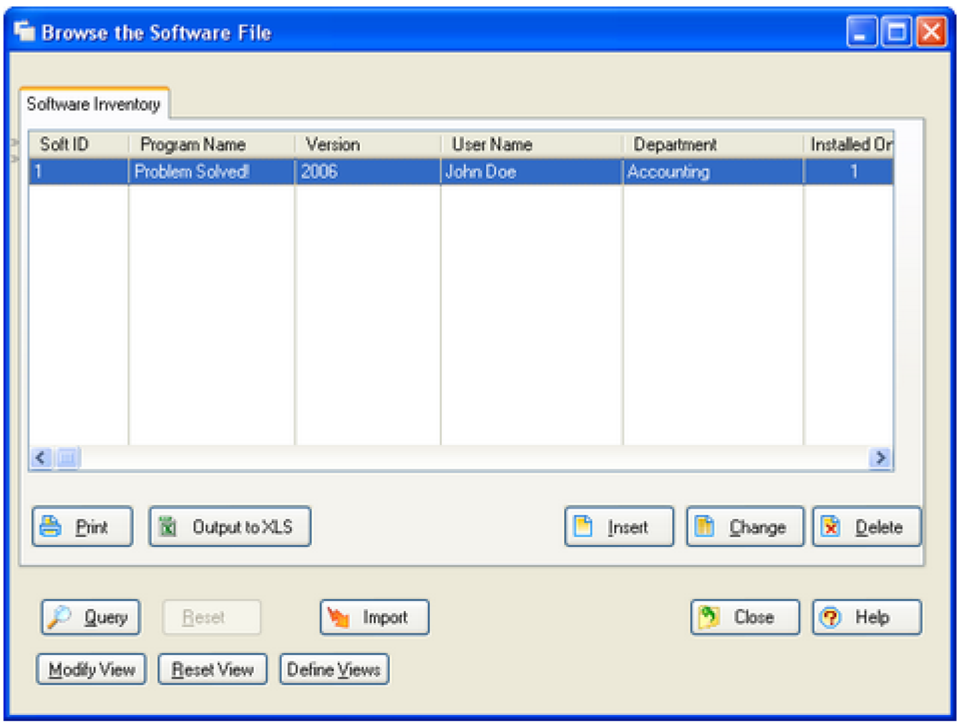
NOTE: Version 2006 added Location, Building and Room fields. This is looked up based on the selected user.

2.16 Browse Software

Browse the Software File

To sort on a column click the column header. Right clicking on a column header will pop up a menu with options for that column.

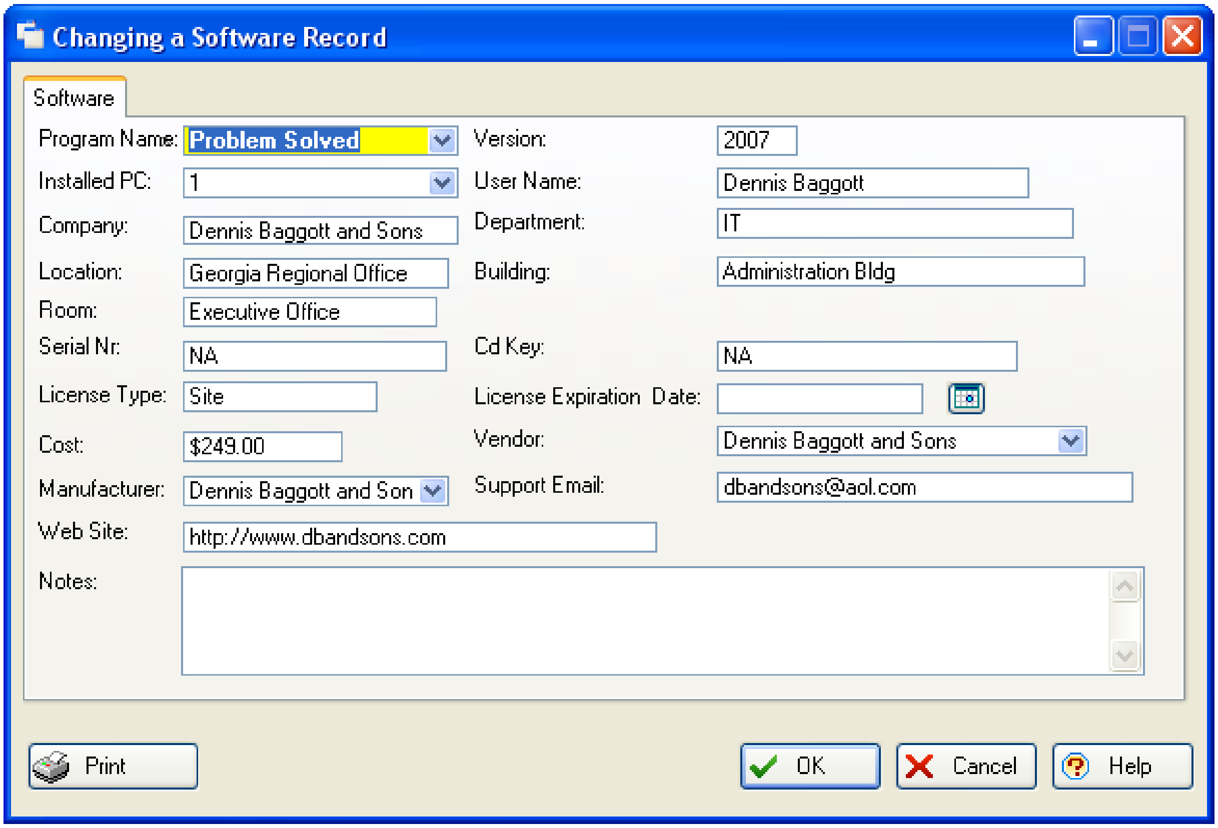
You may also click and drag a column to move it right or left. You may find the View buttons helpful in creating reusable views of the data in the browse screen.



This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. You can hold the ctrl key down and click additional column headers to create a multi column sort. An Import button is provided to let you import from a variety of data sources.

2.17 Update Software

Update the Software File



This screen is used to update software information. Each time a record is added, a unique, automatically incremented number will be assigned to the record. You can use the ... button to quickly select the computer on which the software is installed. You may also quickly select the name of the program (many programs will be installed on more than one computer so it can be helpful to have set up the program names in that lookup table). When you click the ... button to select the User name, their company (or location) name and department will be filled in automatically. You may next want to record the version (or service pack info), as well as the serial number and/or CD Key. You can record the license type, such as Site or Individual License.

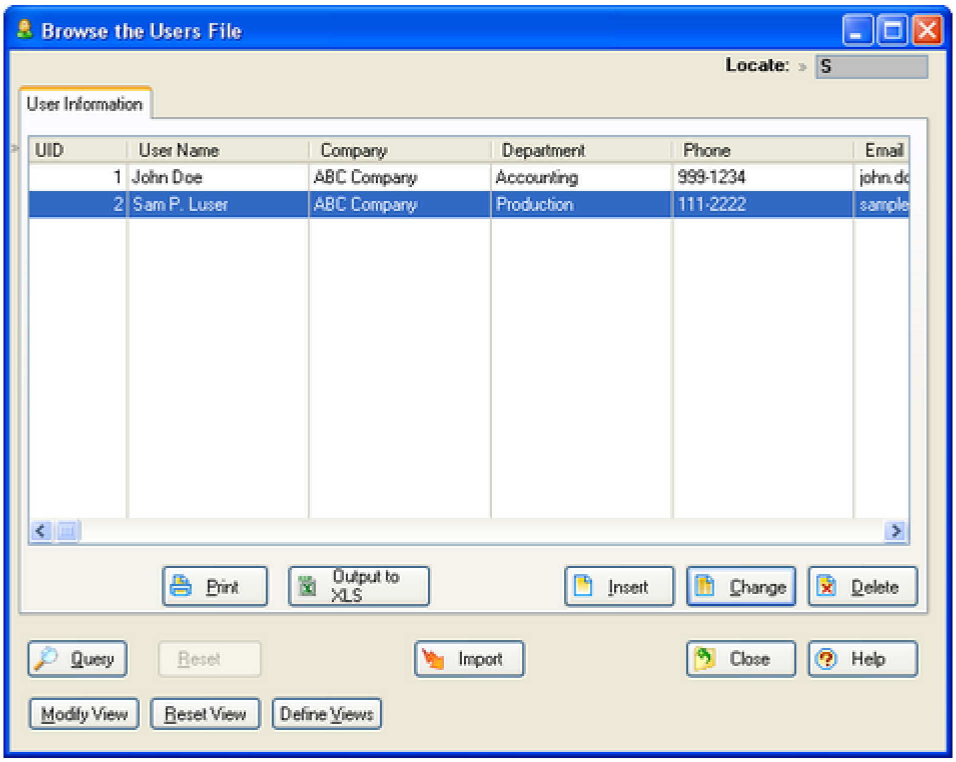
Version 2007 added Location, Building and Room fields.

2.18 Browse Users

Browse the Users File

To sort on a column click the column header. Right clicking on a column header will pop up a menu with options for that column.

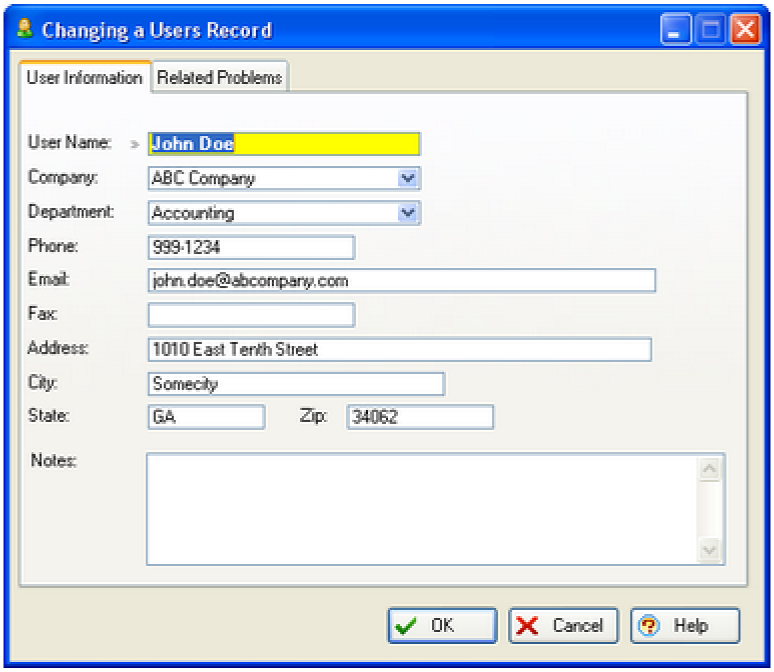
You may also click and drag a column to move it right or left. You may find the View buttons helpful in creating reusable views of the data in the browse screen.



This screen shows individual records in rows and columns like a spreadsheet. The Insert button is used to add a new record, the Change button will let you edit the selected record while the Delete button will delete the selected record. Query and Reset buttons are provided to let you use the Query Wizard or to remove any filter condition you may have created. A print button will print a full page report of the selected record while another button will generate a Microsoft Excel formatted spreadsheet with the data as displayed, sorted, and filtered. Clicking on a column header will sort on that column. You can hold the ctrl key down and click additional column headers to create a multi column sort. An Import button is provided to let you import from a variety of data sources.

2.19 Update Users

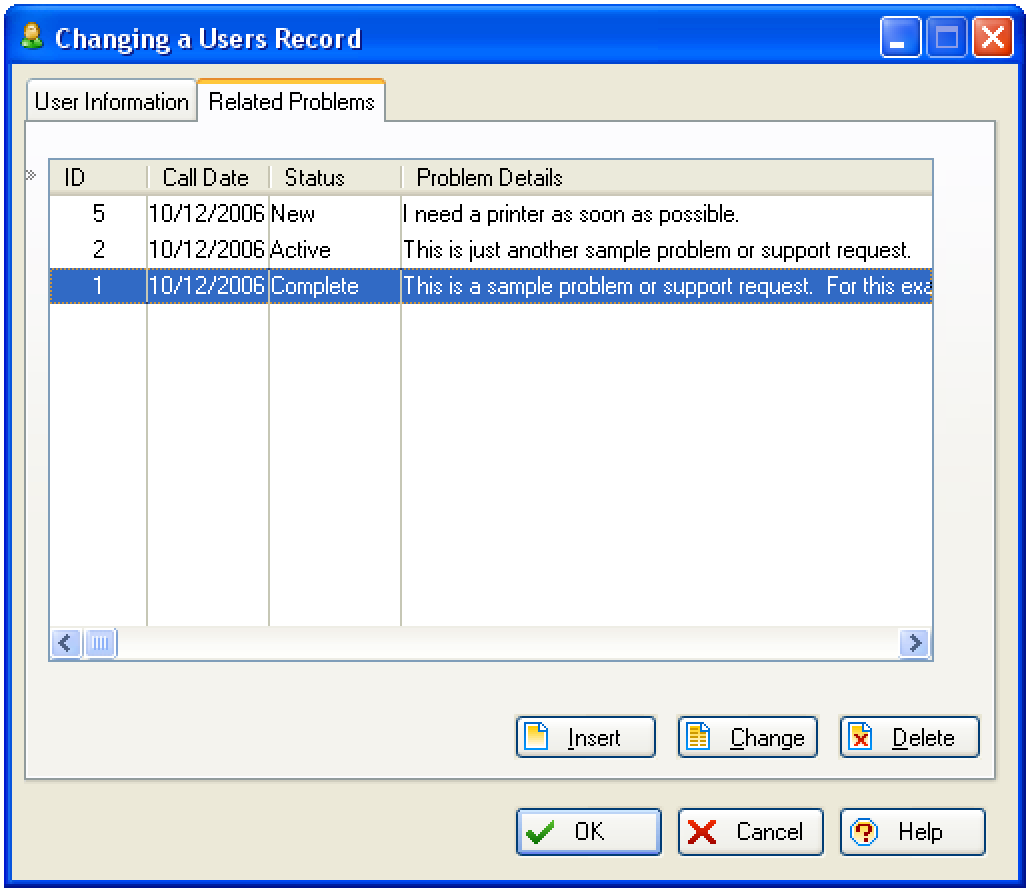
Update the Users File



This screen is used to enter your user information. The user name should be obvious. Some organizations will use this program to provide support for users at many different companies (or locations). You can select the company name and department names from drop down list boxes. If the value you enter is not already in that lookup table, you can enter while adding the user record.

Phone, email, fax, address, city, state and zip code fields should be self explanatory, but they are optional. A variable length notes field is also provided.

Version 2006 added a tab to this screen with the requests related to this user.



Just like the update problems form called from the main browse problems screen, there are Insert, Change and Delete buttons on the Related Problems tab to let you add, change or delete problems for the selected user.

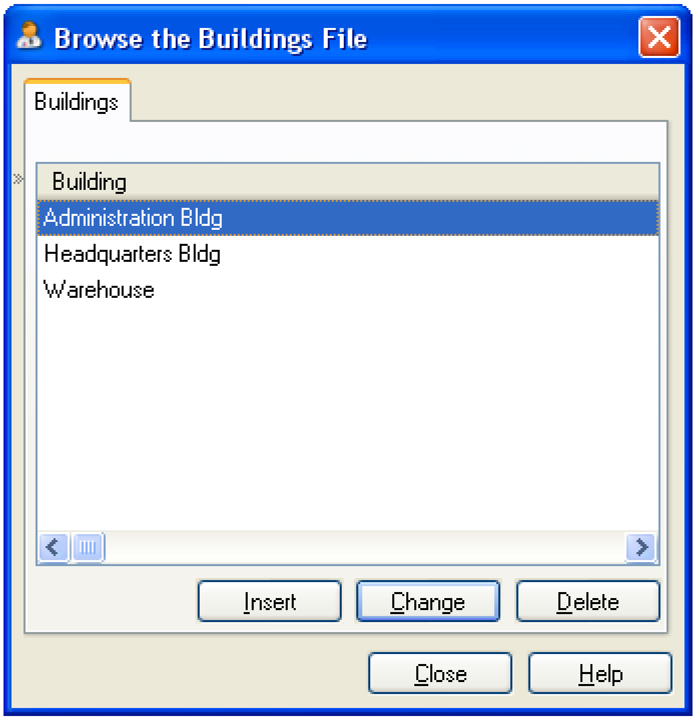
3 Lookup Tables

3.1 Lookup Tables

Lookup tables often have just a single value. They are provided to speed data entry by supplying the values for selection from drop down lists. This also helps insure data integrity.

3.2 BrowseBuildings

This screen is used to view the buildings lookup table.

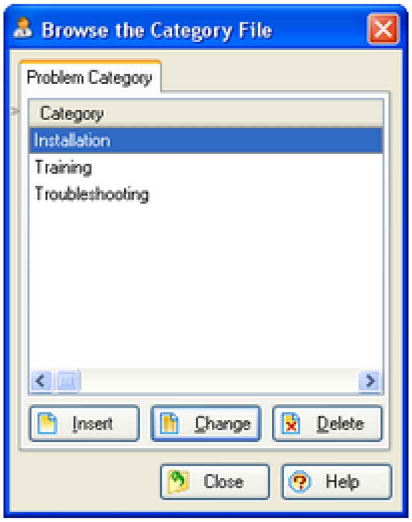


3.3 Update Buildings

This screen is used to add or edit Building names.

3.4 Browse Category

Browse the Category File
This screen is used to view the problem category lookup table.

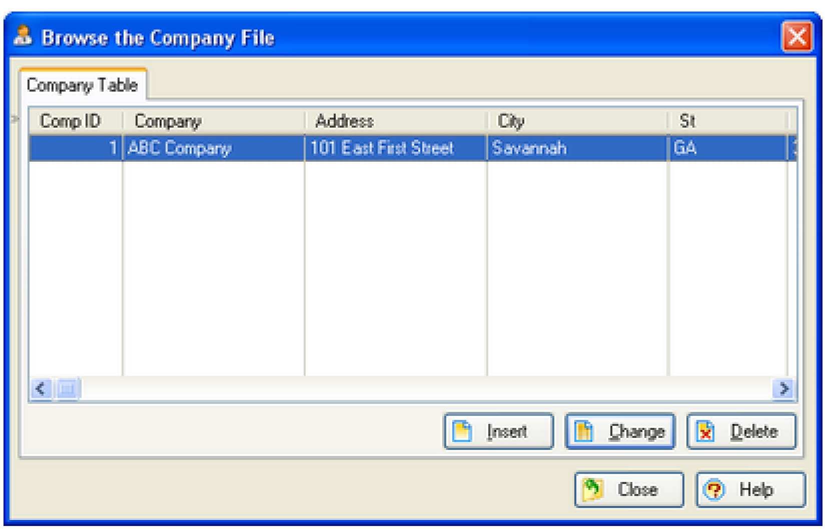


3.5 Update Category

Update the Category File

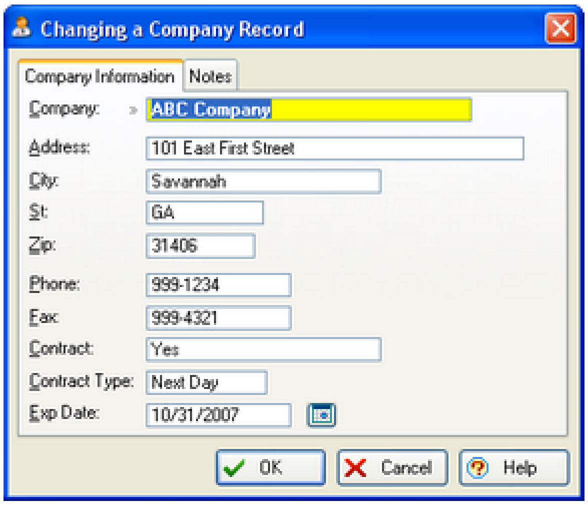
3.6 Browse Company

Browse the Company File



3.7 Update Company

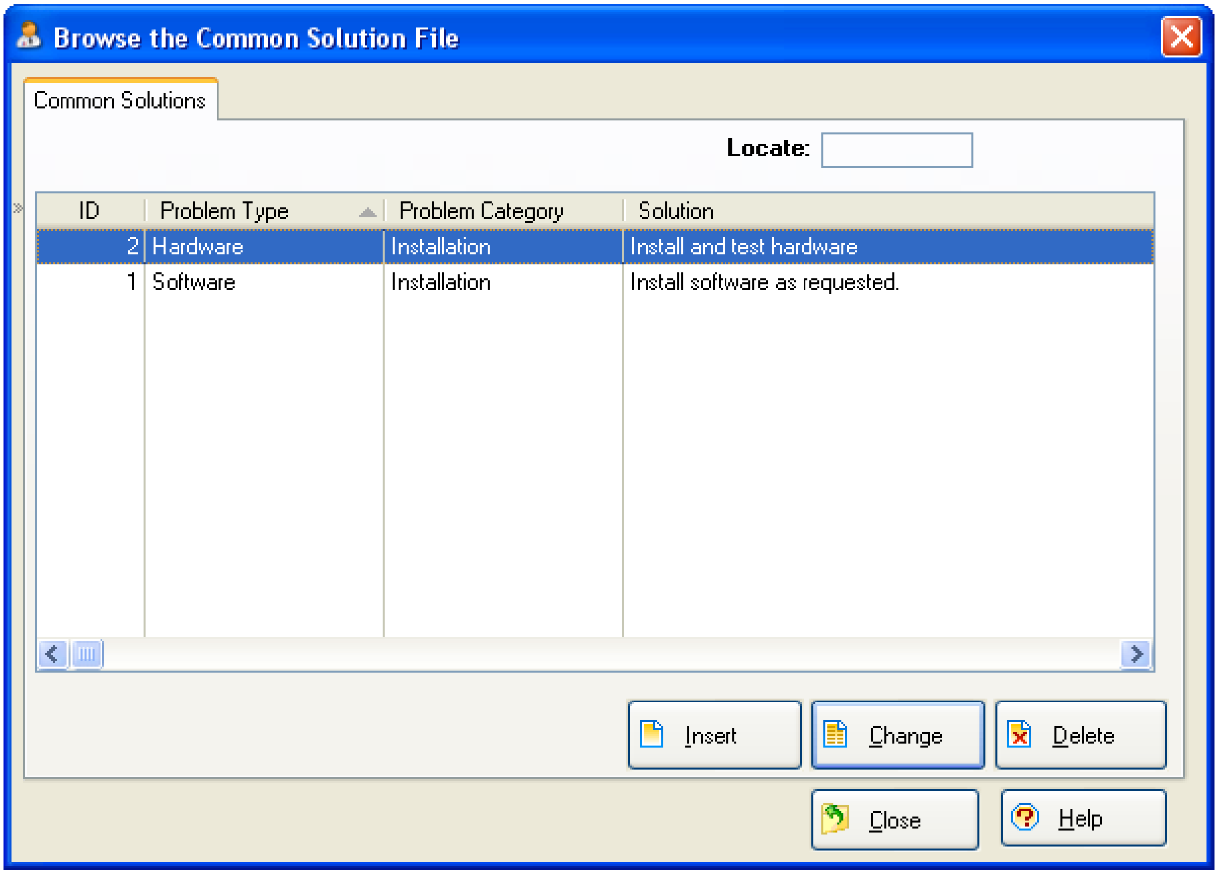
Update the Company File



This screen is used to update company information. Some organizations use Company as a Location.

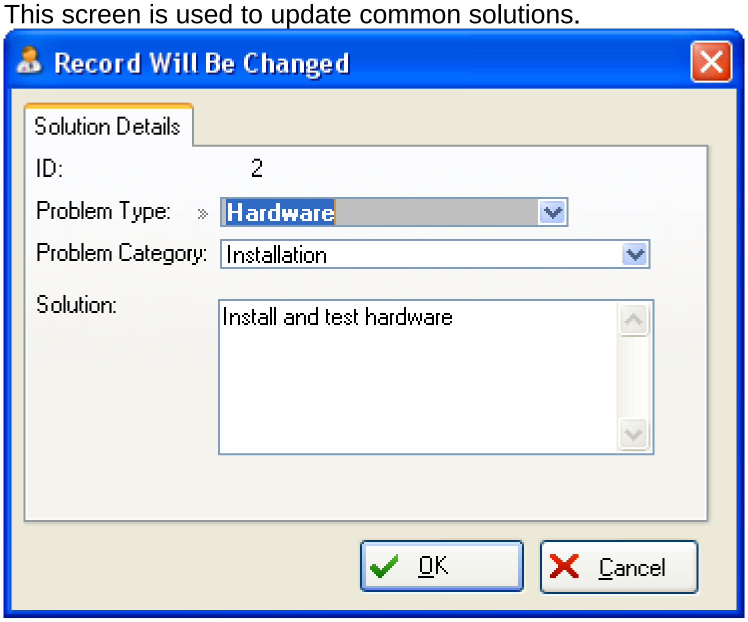
3.8 Browse Common Solutions

This screen lets you view the Common Solutions table, new in Problem Solved! 2007. This table can be used to speed updating of problem records by letting you choose a common solution.



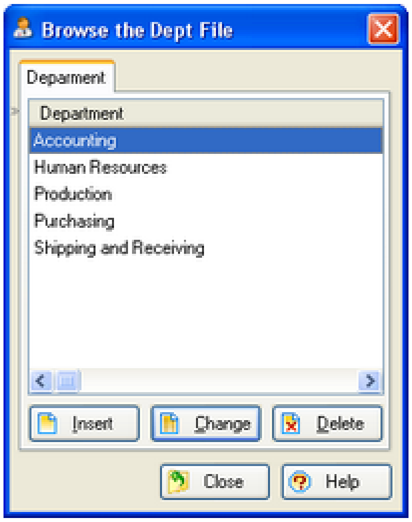
3.9 Update Common Solutions

This screen is used to update common solutions.



3.10 Browse Department

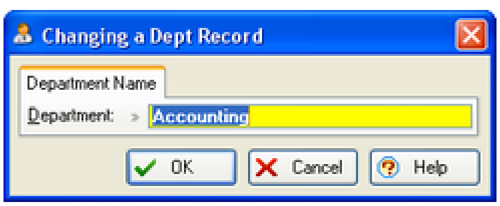
Browse the Departments File



This screen is used to view the department names used in many lookup procedures.

3.11 Update Department

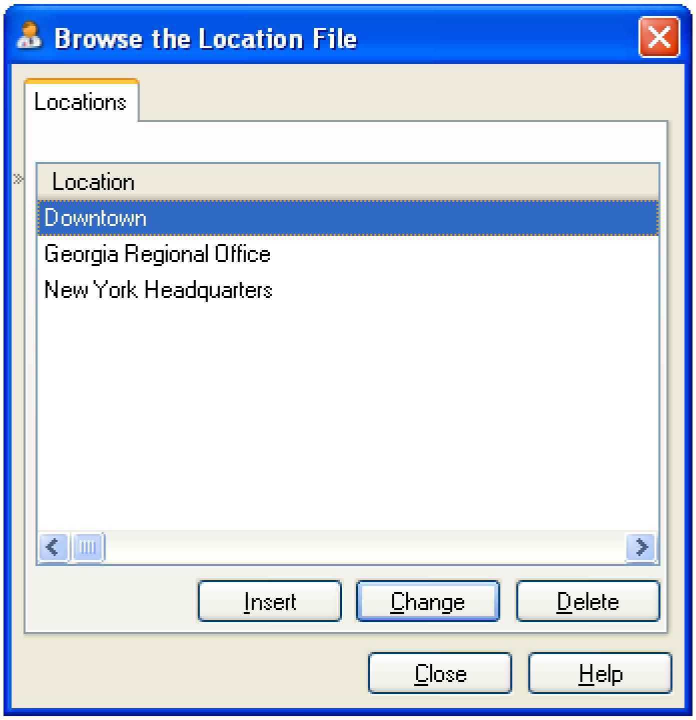
Update the Department File



This screen is used to update the departments lookup table.

3.12 Browse Locations

This screen shows the locations lookup table.

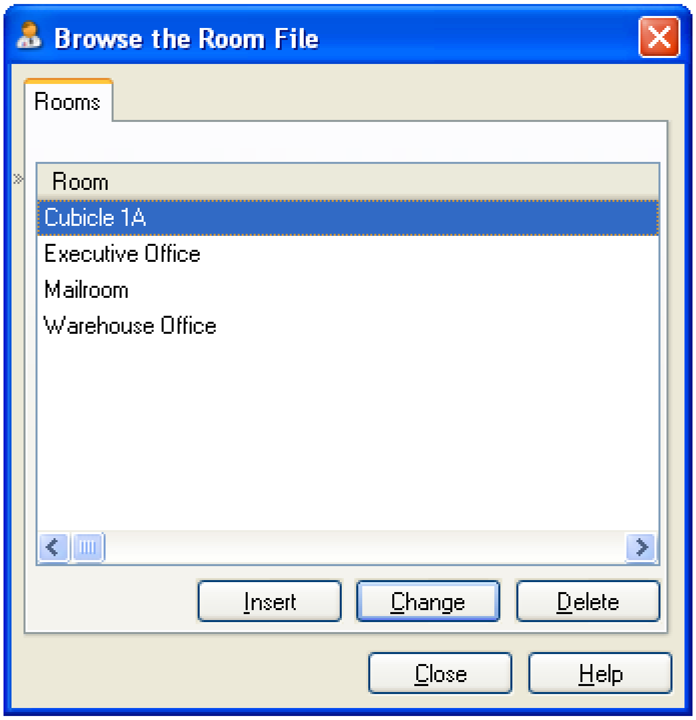


3.13 Update Locations

This screen lets you add or edit locations.

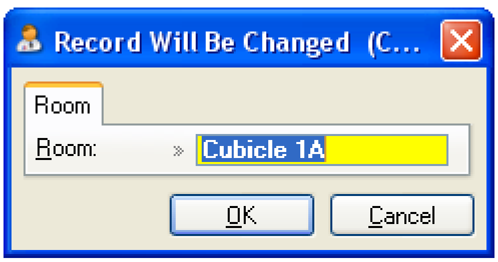
3.14 Browse Rooms

This screen lets you view the Rooms lookup table.



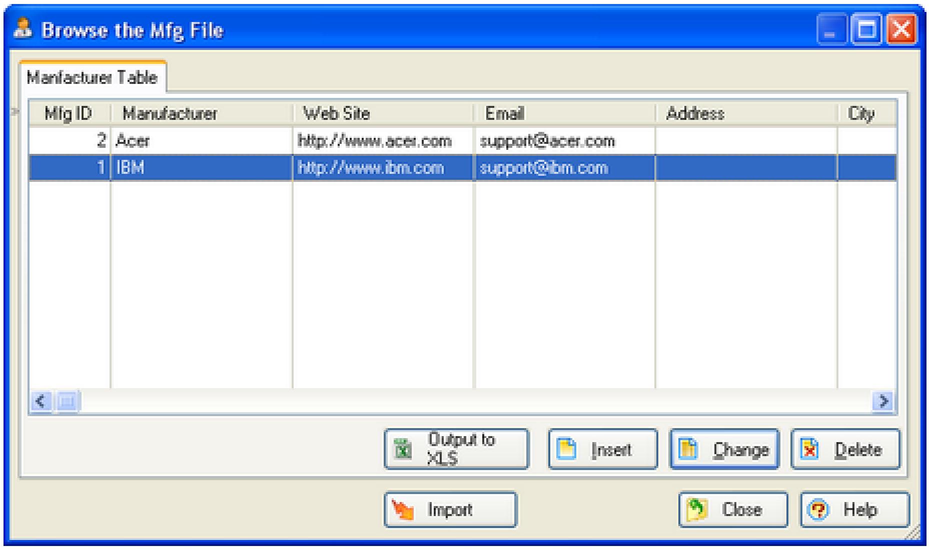
3.15 Update Rooms

This screen lets you add or edit Rooms.



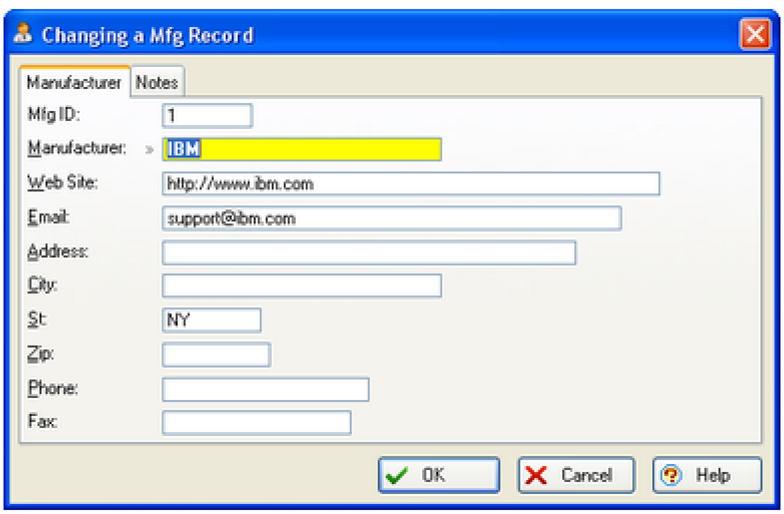
3.16 Browse Mfg

Browse the Manufacturers File



3.17 Update Mfg

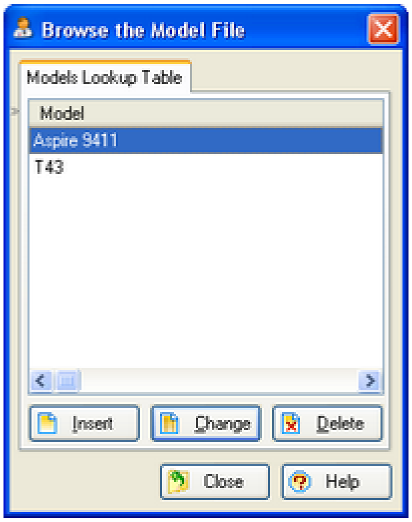
Update the Mfg File



This screen is used to update the Manufacturer information.

3.18 Browse Model

Browse the Model File



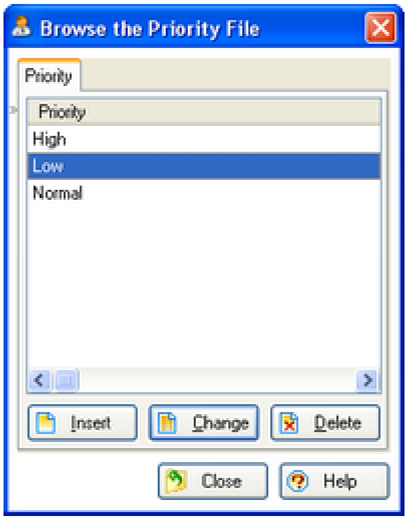
3.19 Update Model

Update the Model File

This screen is used to update the model lookup table.

3.20 Browse Priority

Browse the Priority File



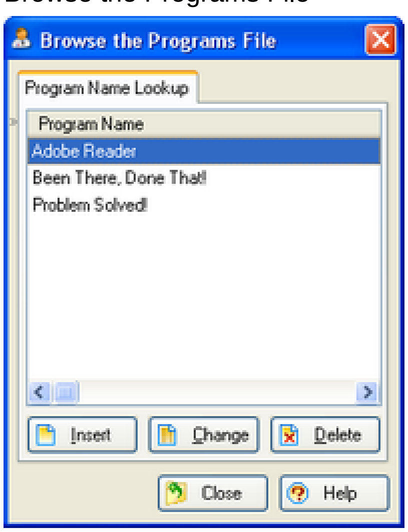
3.21 Update Priority

Update the Priority File

This screen is used to update the problem priority lookup table.

3.22 Browse Programs

Browse the Programs File

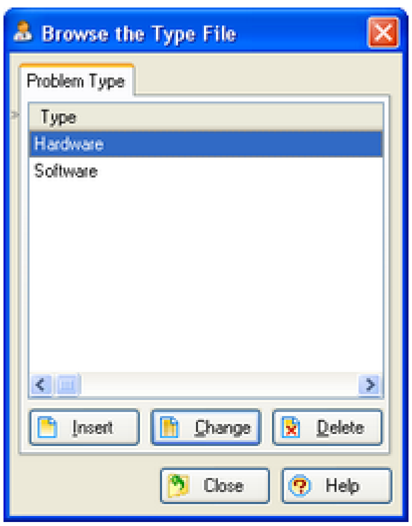


3.23 Update Programs

Update the Programs File

3.24 BrowseType

Browse the Type File

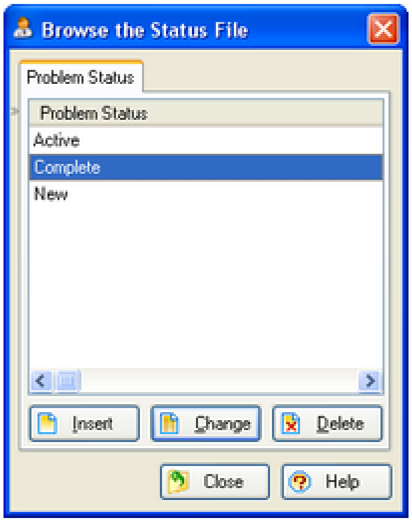


3.25 Update Type

Update the Type File

3.26 Browse Status

Browse the Status File

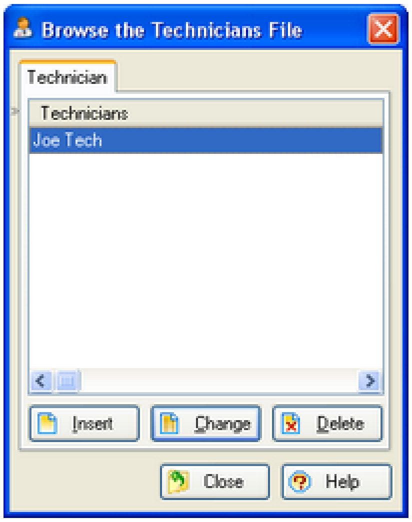


3.27 Update Status

Update the Status File

3.28 Browse Technicians

Browse the Technicians File

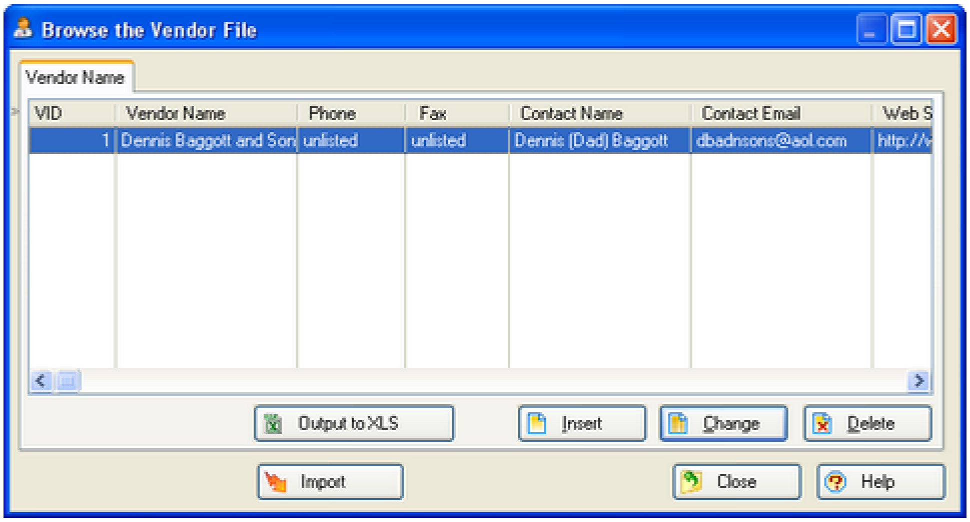


3.29 Update Technicians

Update the Technicians File

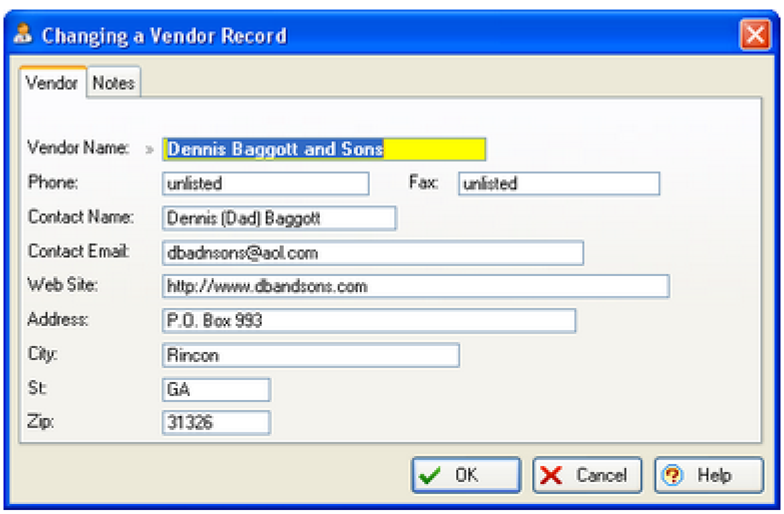
3.30 Browse Vendor

Browse the Vendor File



3.31 Update Vendor

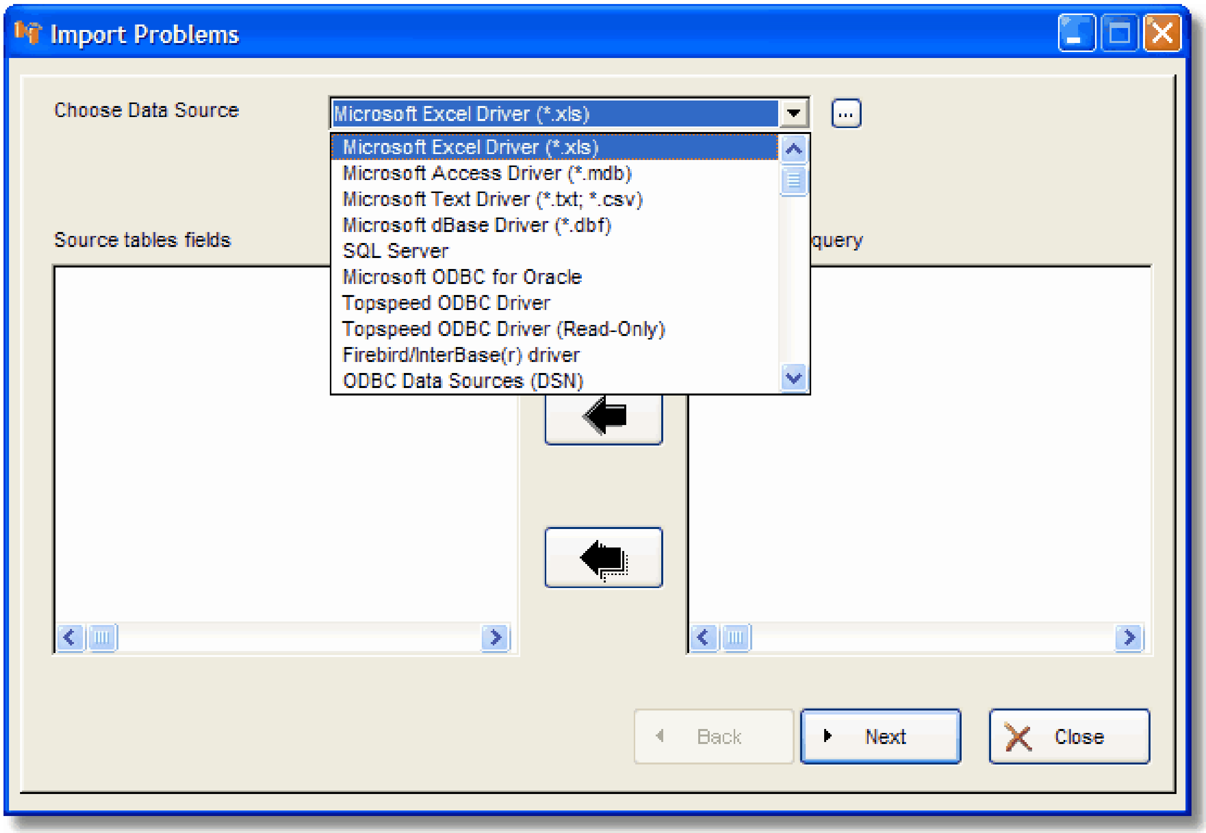
Update the Vendor File



4 Tools

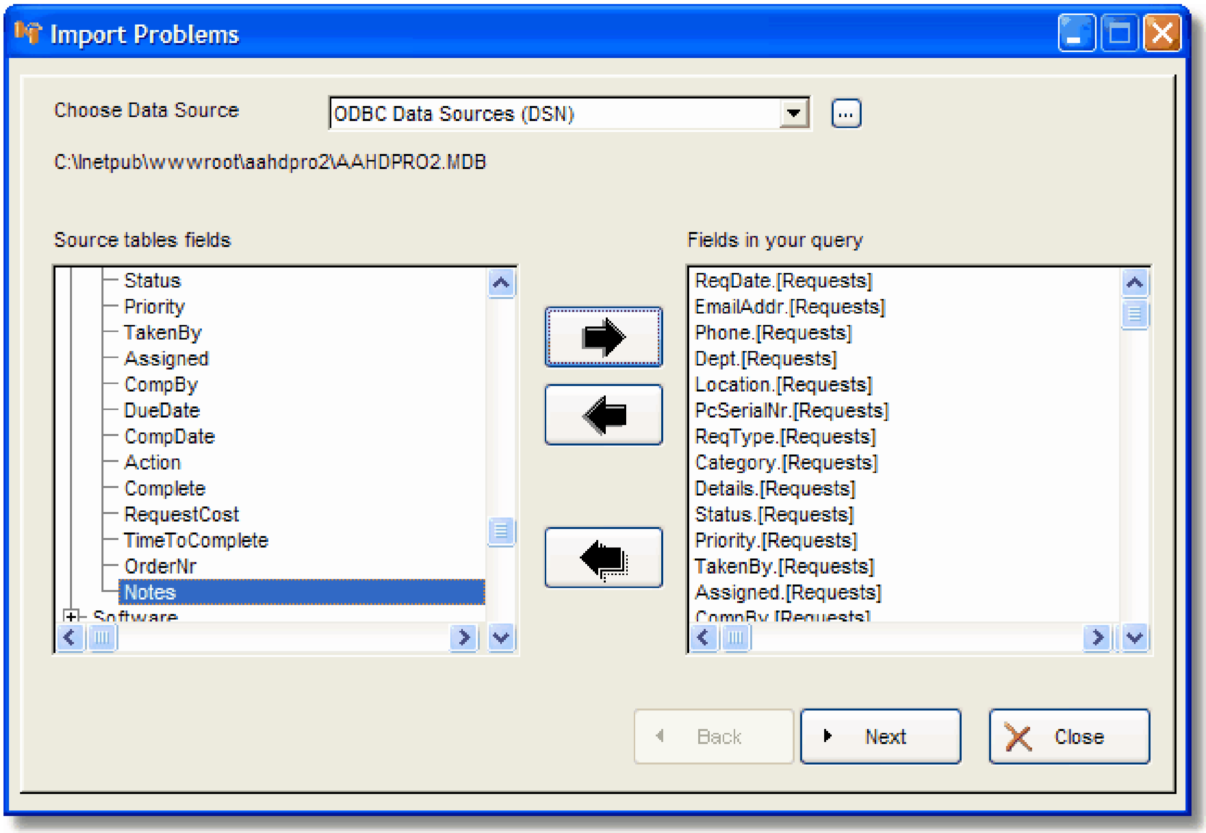
4.1 Importing Data

Earlier versions of Problem Solved! only allowed for importing of data from CSV (comma separated values) formatted files. In this version you have a much wider variety of data sources available for importing data to the main files. You start the import process by clicking on the Import button.

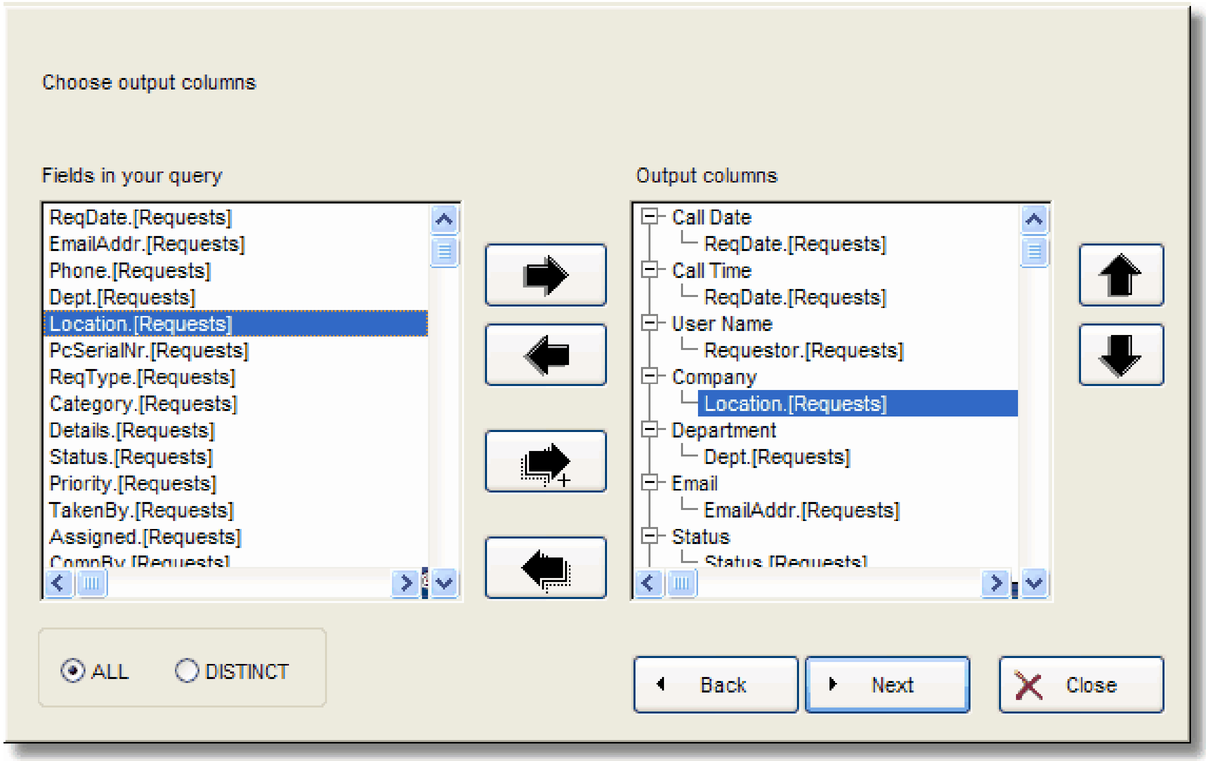


The default data source type is Microsoft Excel, but if you click the down arrow you should have more choices, such as .mdb, .dbf and ODBC Data Sources. After selecting an option here, you next click the button with the ... to choose the actual file or directory that contains those file types, or a data source name. In the screens I am using for an example, I am using an ODBC DSN for an MS Access format .mdb file used by one of my other help desk programs, the AccessAble Help Desk Pro Edition.

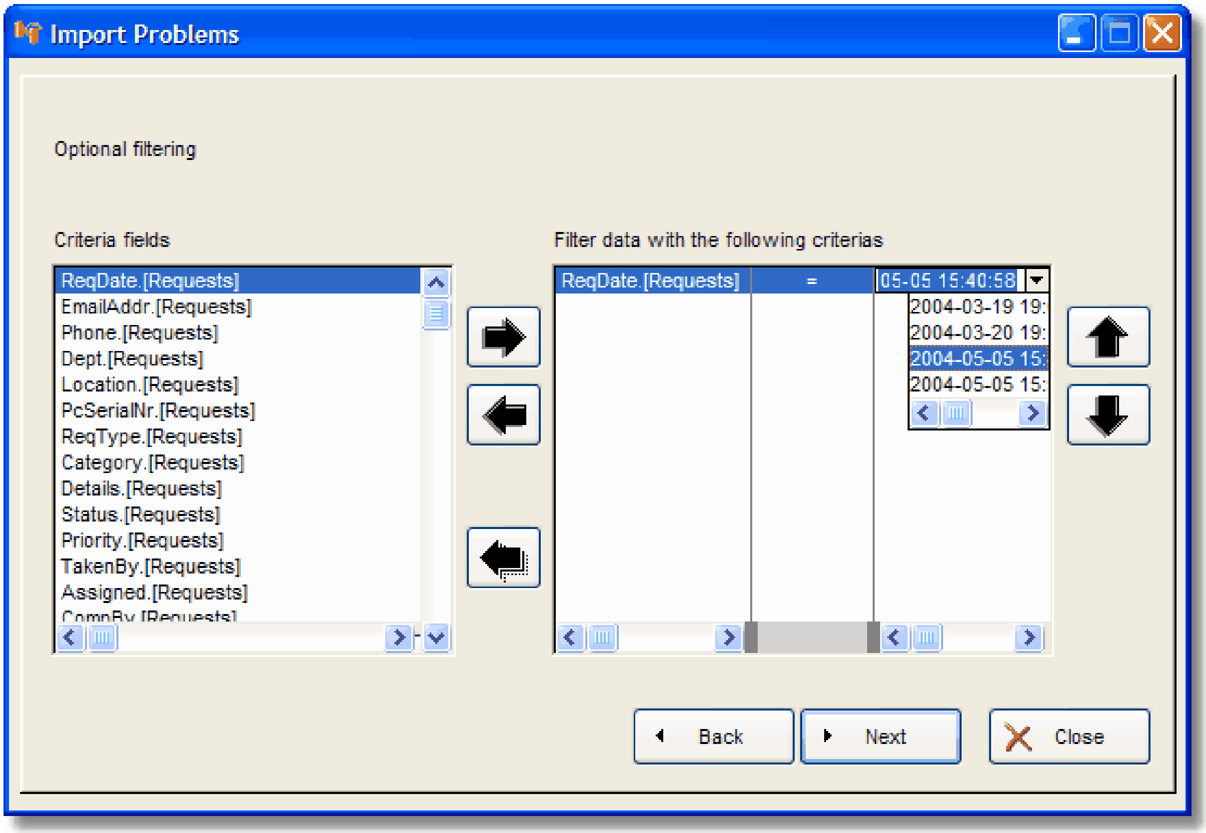
In the next screen you see that I am not selecting the source table on the left and the fields I want to import from my source file.



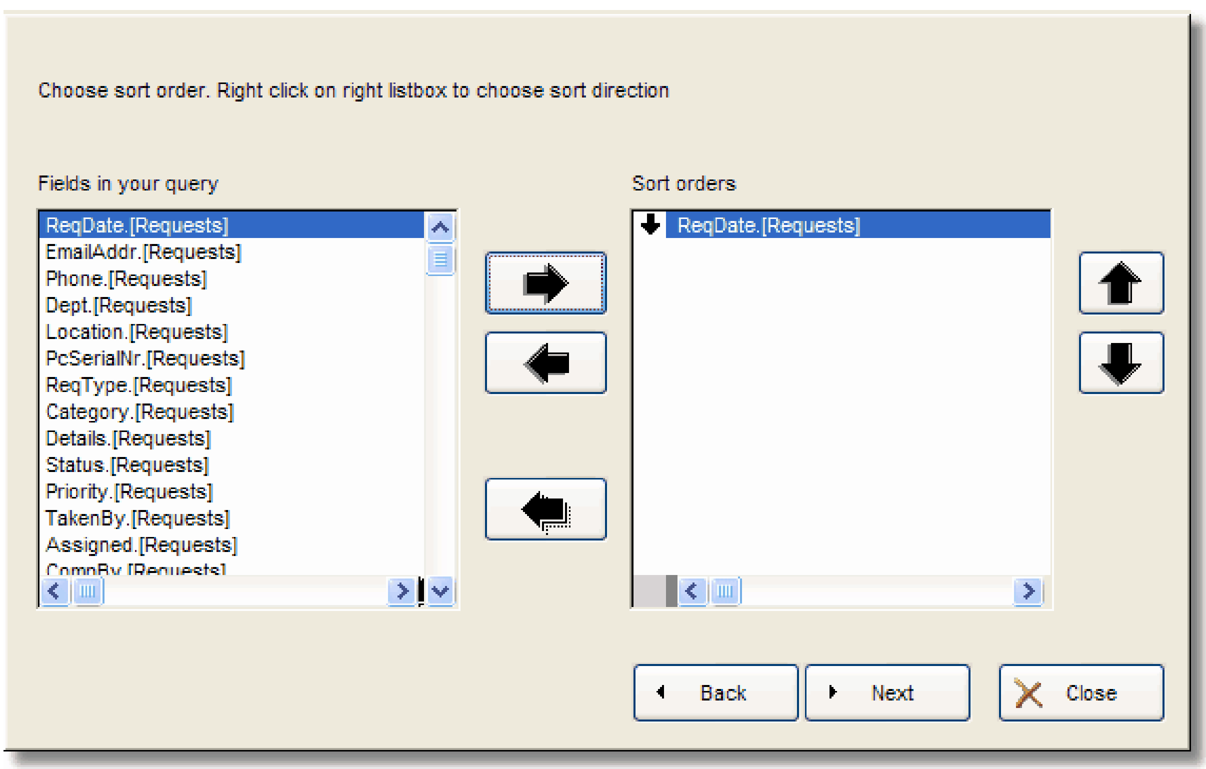
When I click the Next button I then begin matching fields from the source table to the target table field that corresponds to each field. Notice I have assigned the same field (reqdate) to both the Call Date and Call Time. Some data formats do not store a date and time as separate fields. This is the case with Microsoft Access. So the import procedure will try to determine which part of the field to use for the date and which part to use for the time field.



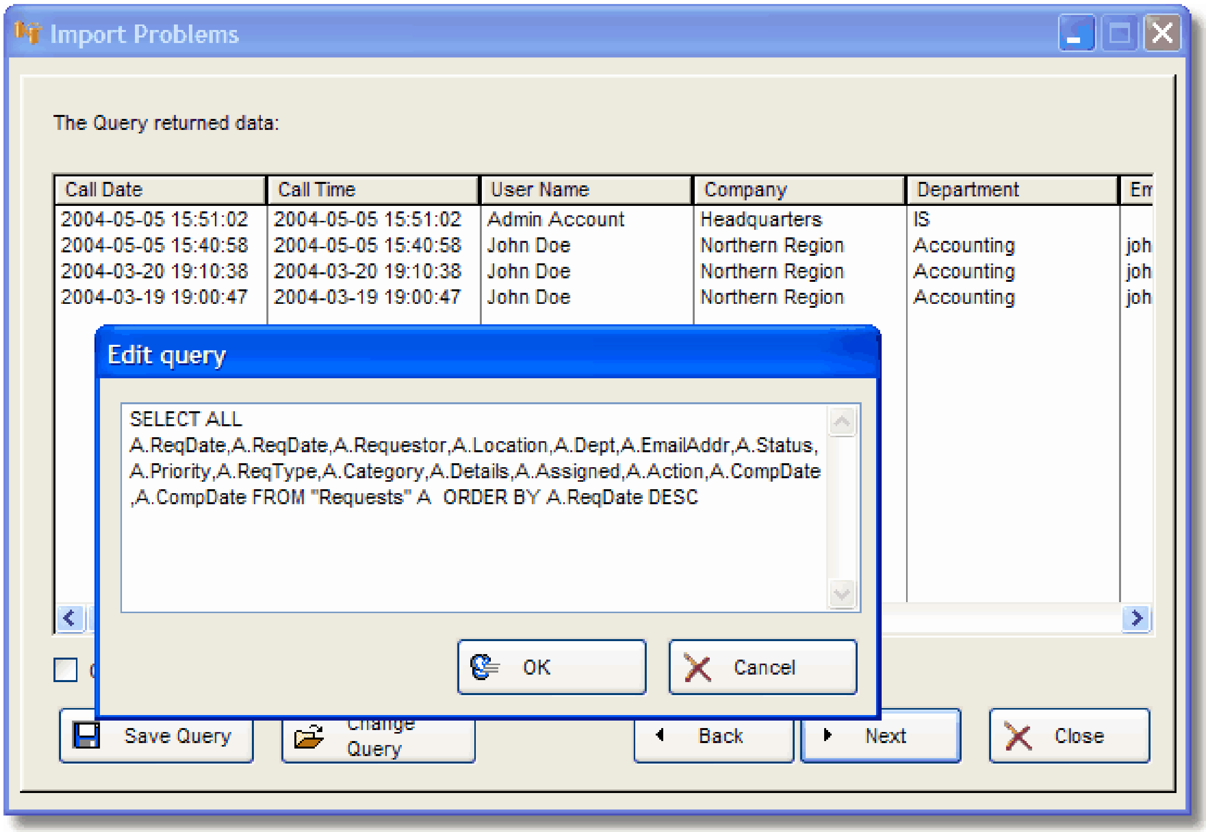
The next screen shows that you have the option to filter the data to be imported. This can done by selecting a field, then an operator then choosing a value from the list.



Although it is not necessary you can even choose the sort order for the data you are importing.



The next screen shows the data that will be imported and you can even change the Query if you need to.

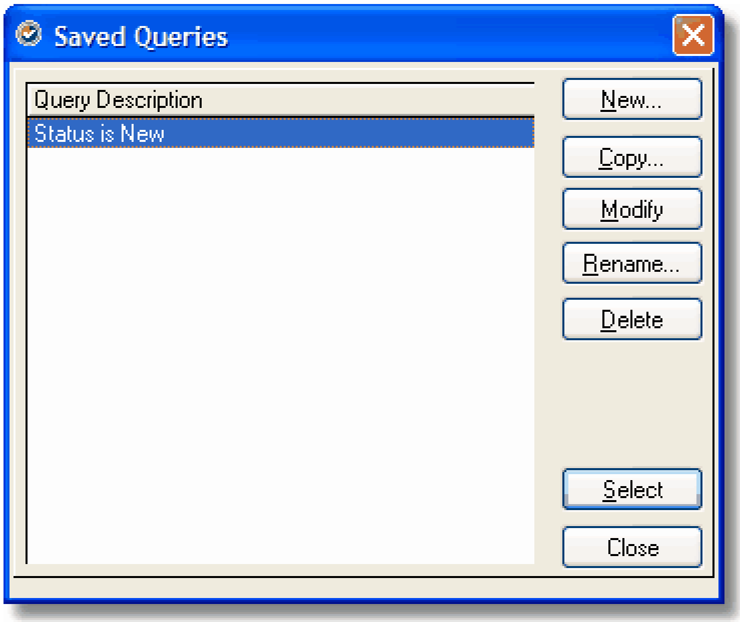


The finish button will then process the records to be imported and you should then see your imported data in the browse screen.

4.2 Query Wizard

The Query Wizard is used throughout the program to enable you to easily filter data displayed in browse screens or printed on reports without knowing SQL- structured query language.

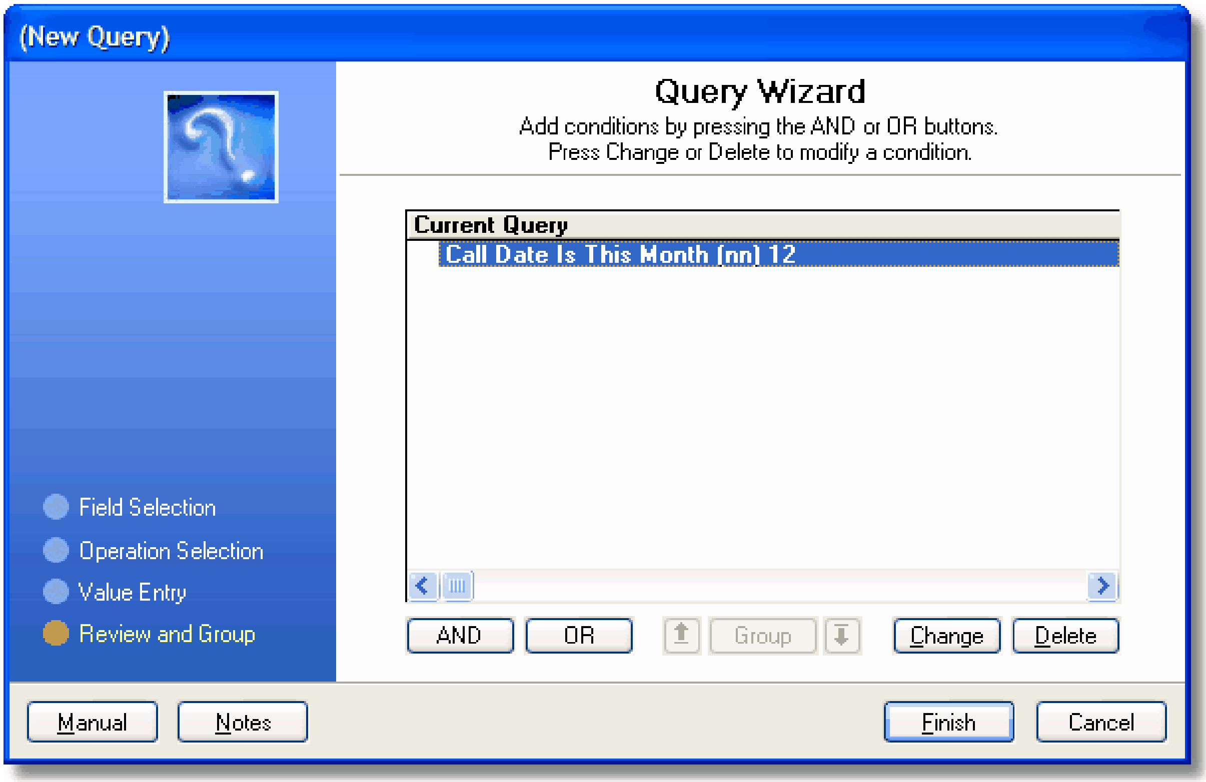
When you first start the query wizard you will see a window where you can select a previously saved query, create a new query, modify the highlighted query, rename the highlighted query or delete the highlighted query.



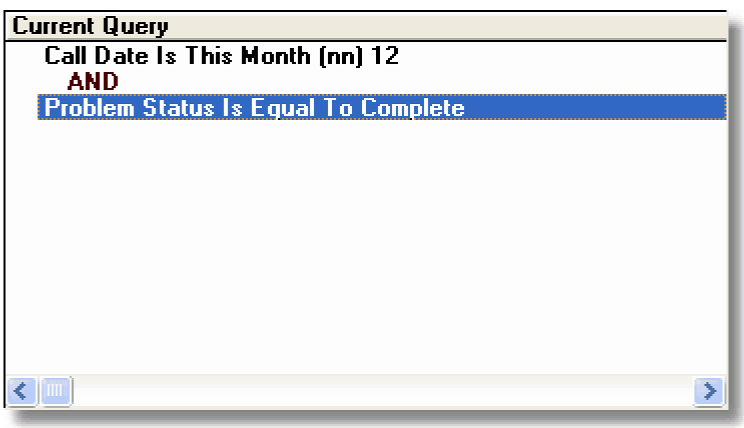
I will click the new button to create a new query. The first step is to select the field you want to filter on. I will choose the Call Date field.

For those who used an earlier version of Problem Solved, there are a number of improvements in this version of the Query Wizard, especially when querying on date fields. It is now easy, for example, to search for records with dates "between" two dates. In each case you can use the pop up date picker to choose a date. However, in this example I am going to use another new set of date operators which you may find helpful.

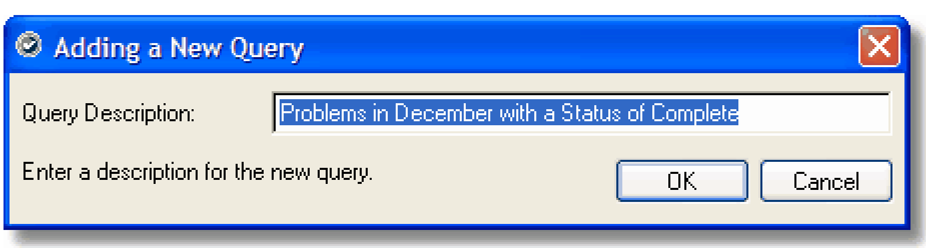
You can now query date fields for the day of the week, day of the month, month number or year number. In this example I want to find only calls where the call date was in the month of December, the 12 th month. So I choose the Is This Month field and enter 12 as the value to search for, see below.



I am going to add a condition to this query, since I only want to see records for problems that originated in December that also have a status of Complete. So I click the AND button to add a condition to the query.



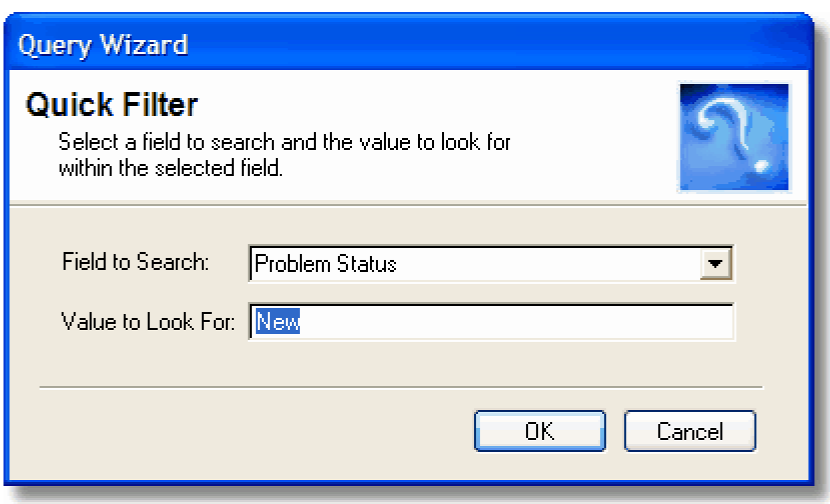
When I click the Finish button I will have the option to save the query, or not. In some cases, if I think I will only use a query one time I don't save it. In this case, I will reuse the query for several reports so I choose the save option and give the query a description.



Sometimes a description is not enough, so there is a notes option to more fully describe a query.

That's it. Now the query will be available whenever I want to apply it. To remove a query condition from a browse screen, just click the Reset button.

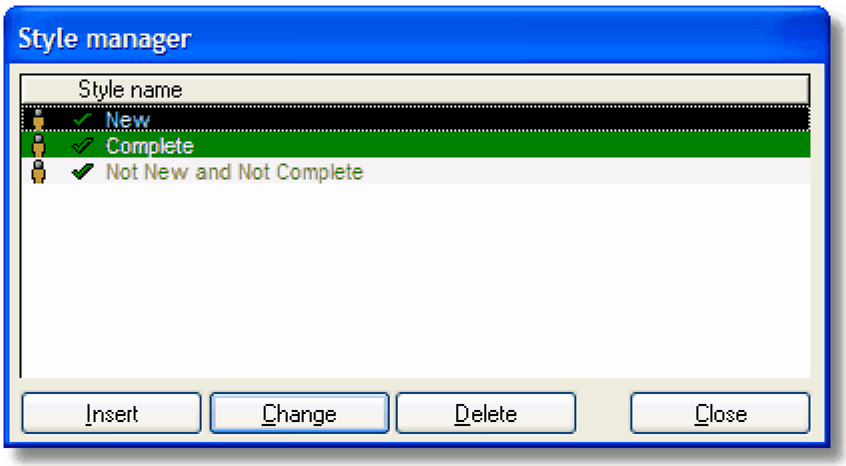
Another new addition to the Query Wizard is the Quick Filter button. This is helpful when you only want search one field and you know the exact field you want to search on. For example, to quickly filter a browse screen for problems with a status of new.



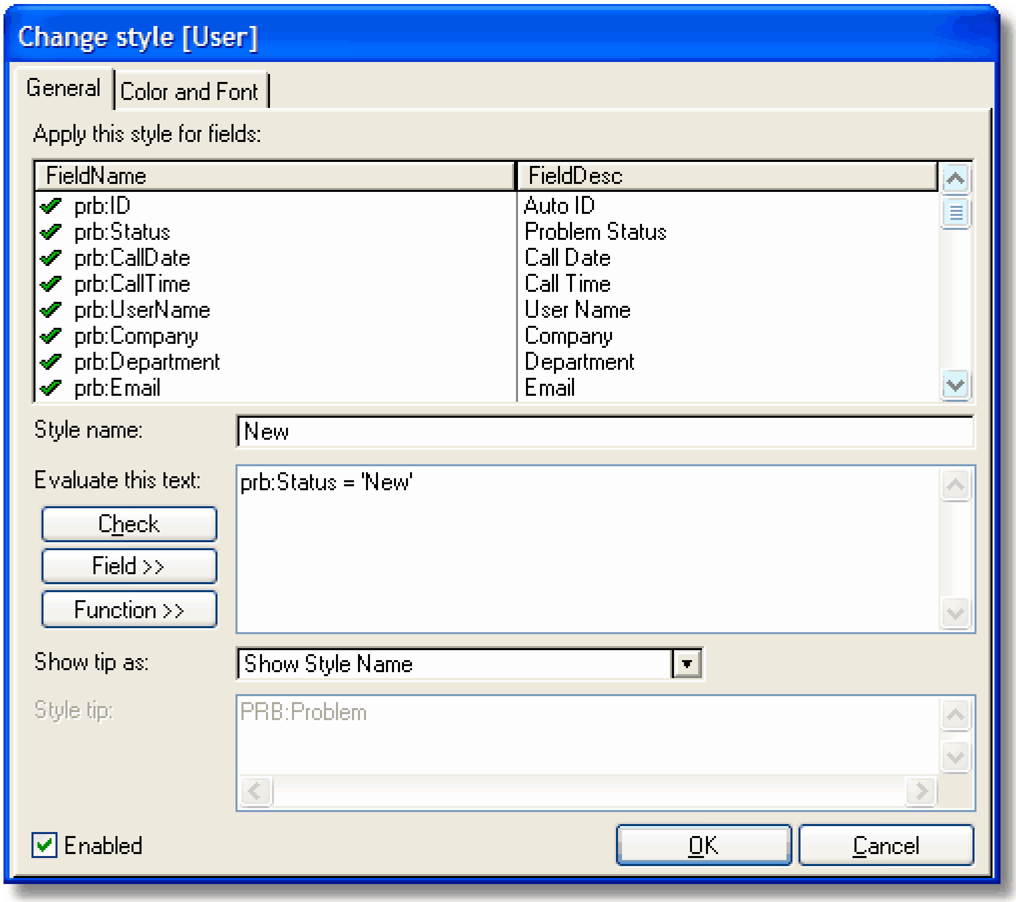
I hope you will find the Query Wizard helpful as you use the program.

4.3 Style Manager

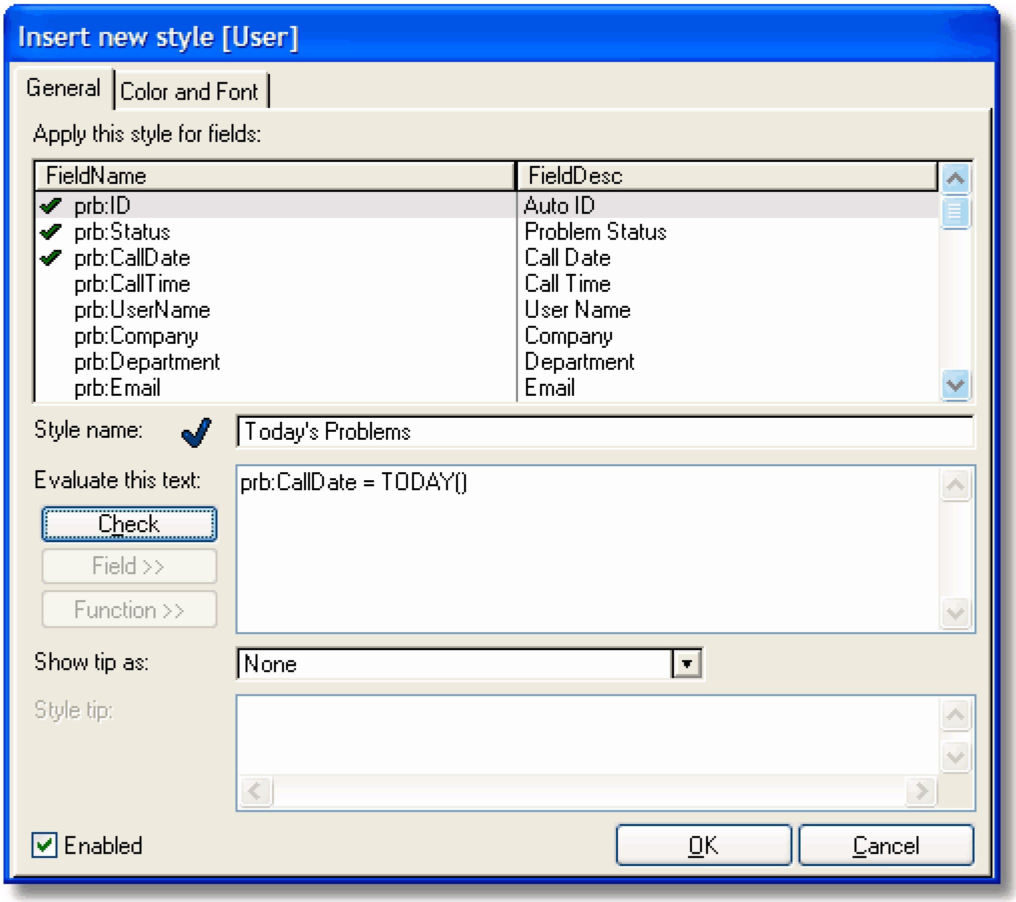
Many may find it helpful to "color code" problems based on some condition such as a Status = 'New'. In earlier versions I had only provided a set of colored icons in the first column of the browse screen to indicate the problem status. I now include a runtime style manage to give you flexibility to apply styles to the problems browse screen based on conditions you set up. In the screen below I have setup 3 styles each style is applied based on the value in the Status field. One style is applied to records that are New, another for records with a status of Complete, and a third to use when the status is neither New nor Complete.



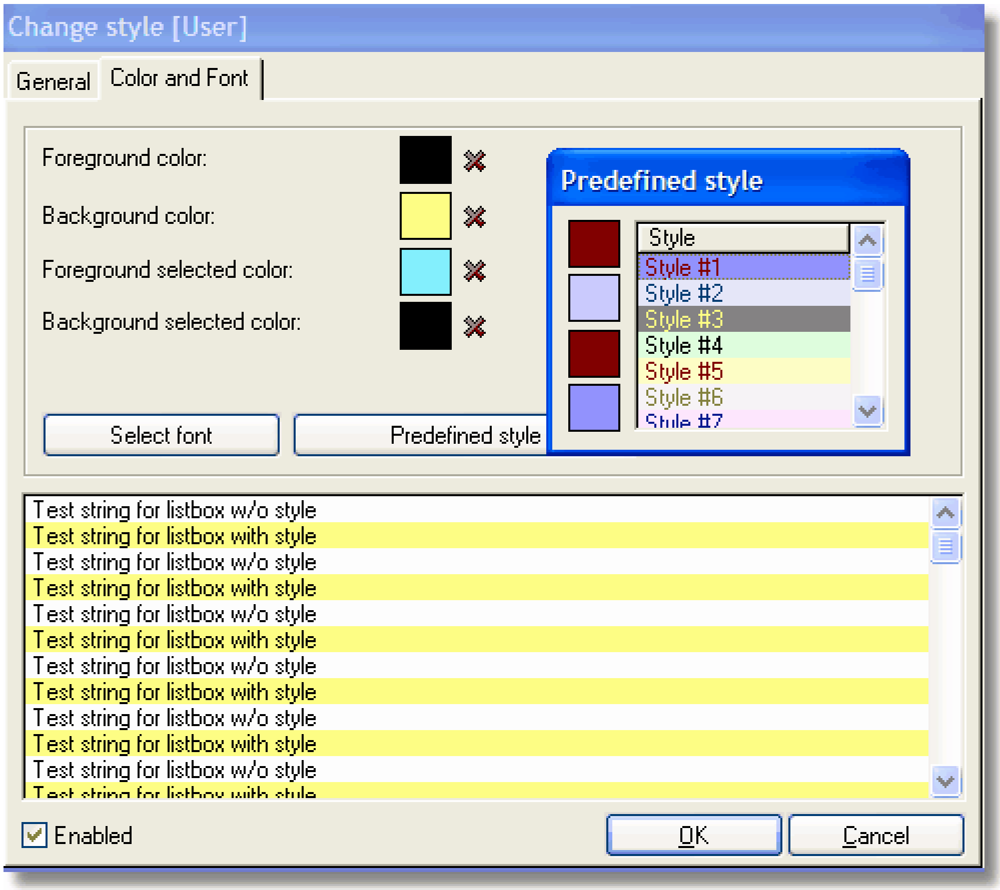
There are some "hot keys" that you can use when browsing problems. Ctrl + D will disable all styles, while Ctrl + A will enable all styles. If you have not already clicked the Style Manager button you can activate the Style Manager with Ctrl + S.



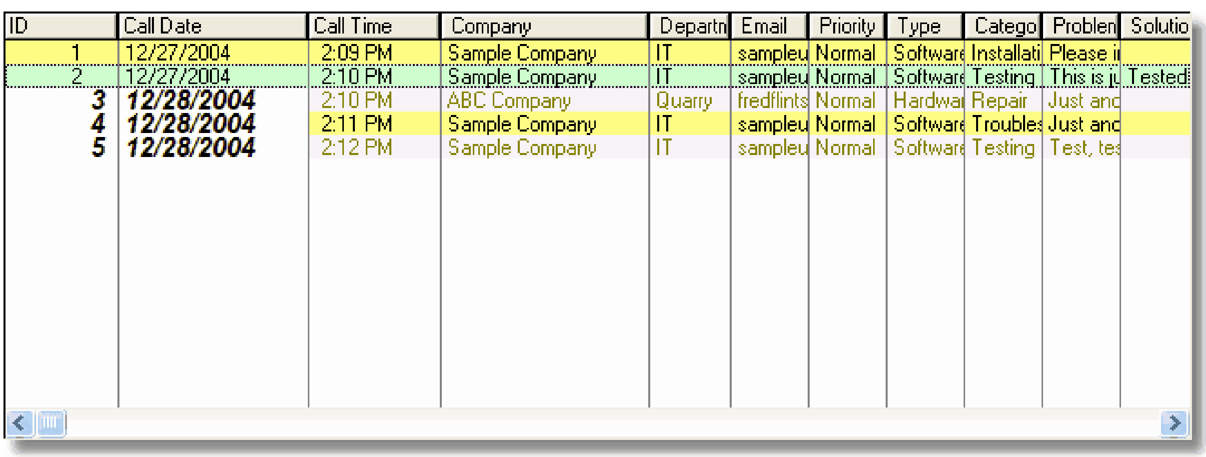
In this screen shot I am modifying a style named New. In the list of fields you can double click to individually select fields to apply a style to, or right click to get a menu option to let you select all fields or deselect all fields. Under this list of fields is where you enter the Style Name. The next box has three buttons next to it. Click inside the box and you can then click the Fields button to pop up a list of field names. This is where you select the field you want to evaluate for a condition. In most cases you will just include the text in single quotes, but you may want to use a function as a condition.



The second tab is where you can set the colors to use for columns you have selected that match the condition specified. I recommend you use one of the predefined styles, but you can set the colors however you like. You can also change the font, not just the colors as well.

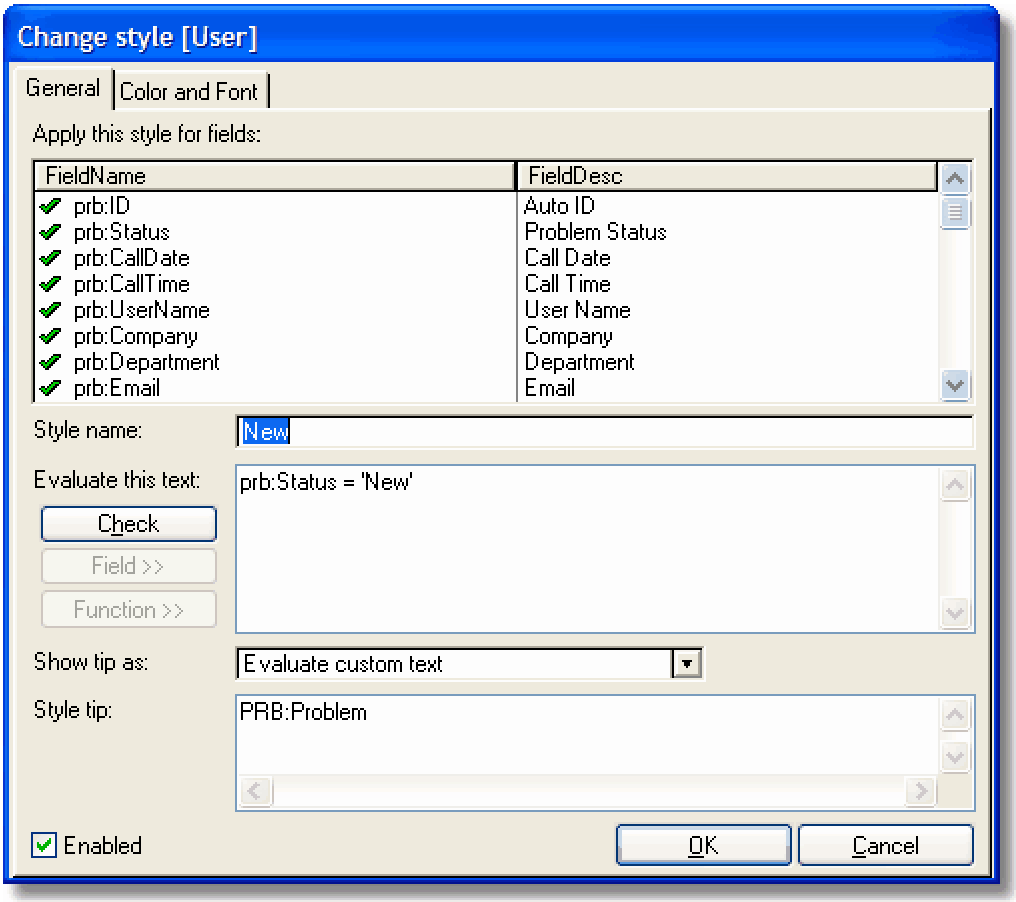


In the next screen you can see that I have used a mix of color and font formatting to highlight records matching certain conditions. I set the font problems with the call date = today() as larger and bolder than other rows.

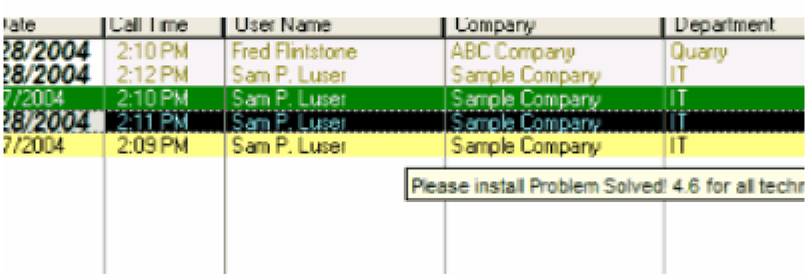


ID	Call Date	Call Time	Company	Departn	Email	Priority	Type	Catego	Problen	Solutio
1	12/27/2004	2:09 PM	Sample Company	IT	sampleu	Normal	Software	Installati	Please i	
2	12/27/2004	2:10 PM	Sample Company	IT	sampleu	Normal	Software	Testing	This is ju	Tested
3	**12/28/2004**	2:10 PM	ABC Company	Quarry	fredflints	Normal	Hardwar	Repair	Just and	
4	**12/28/2004**	2:11 PM	Sample Company	IT	sampleu	Normal	Software	Troubles	Just and	
5	**12/28/2004**	2:12 PM	Sample Company	IT	sampleu	Normal	Software	Testing	Test, tes	

Finally, you can set tool tips for styles to display the Style Name, Custom Text or to Evaluate Custom Text for each row. In this example I want the tool tip to display the problem details as I pass my mouse over the row.



The result below:



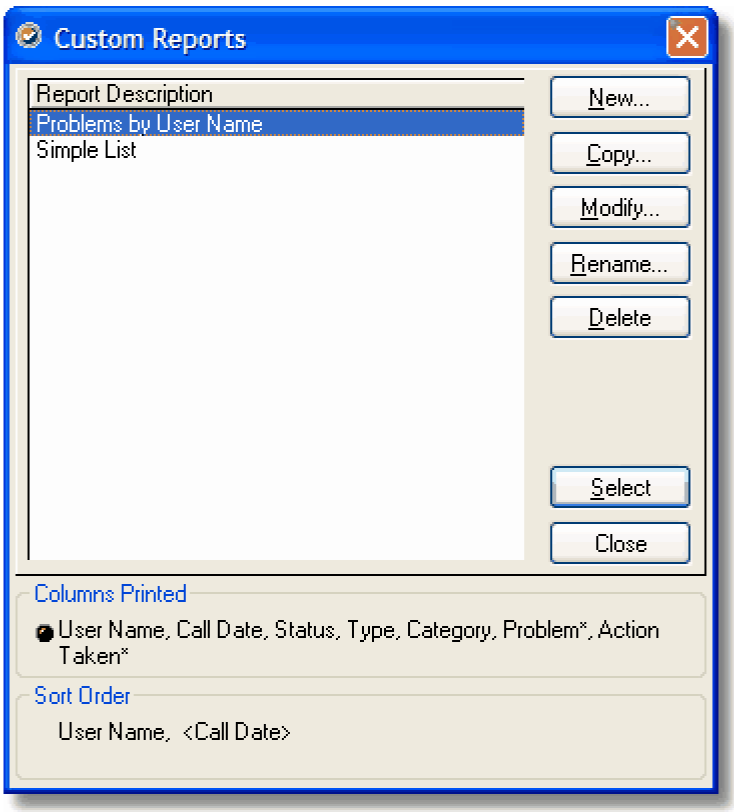
I hope you will find the new style manager feature useful and helpful as you use this new version of Problem Solved!

5 Reports

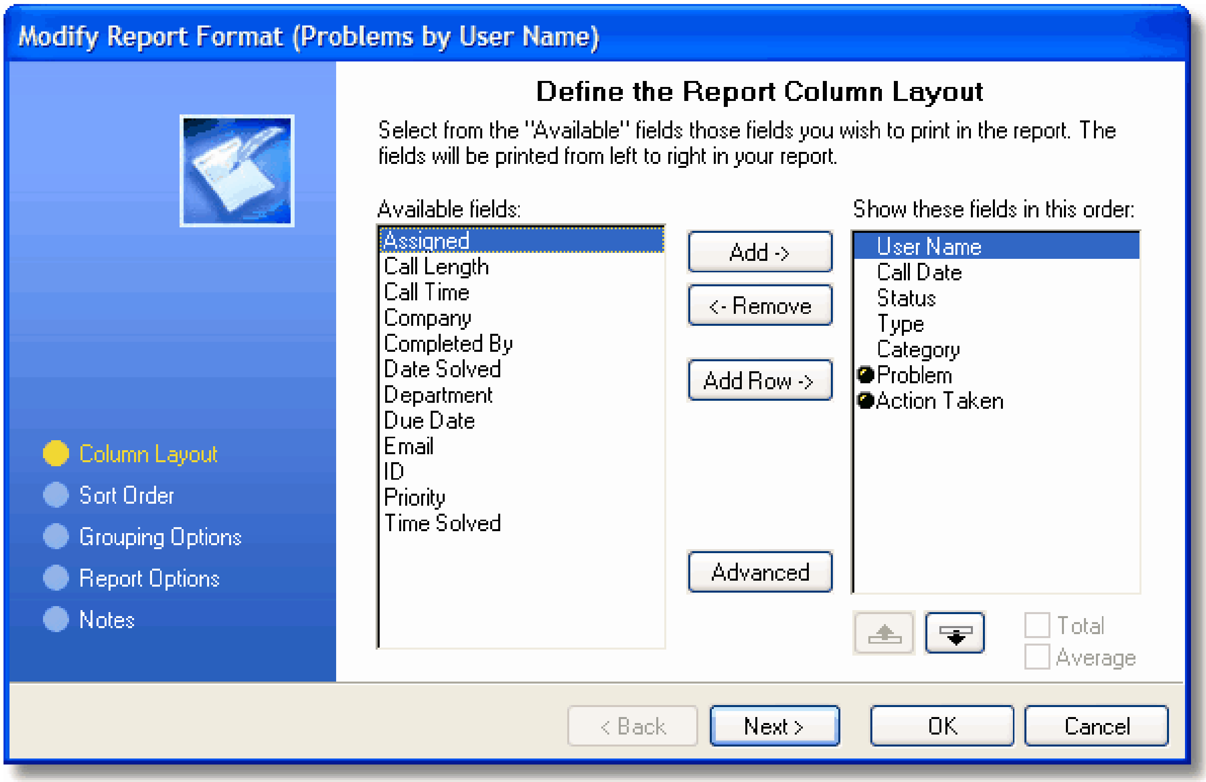
5.1 Report Wizard

This version of Problem Solved! includes a much improved Report Wizard. This wizard will let you create your own custom reports as just as with the standard, or canned reports, allow you to save the report to .pdf format for easy emailing.

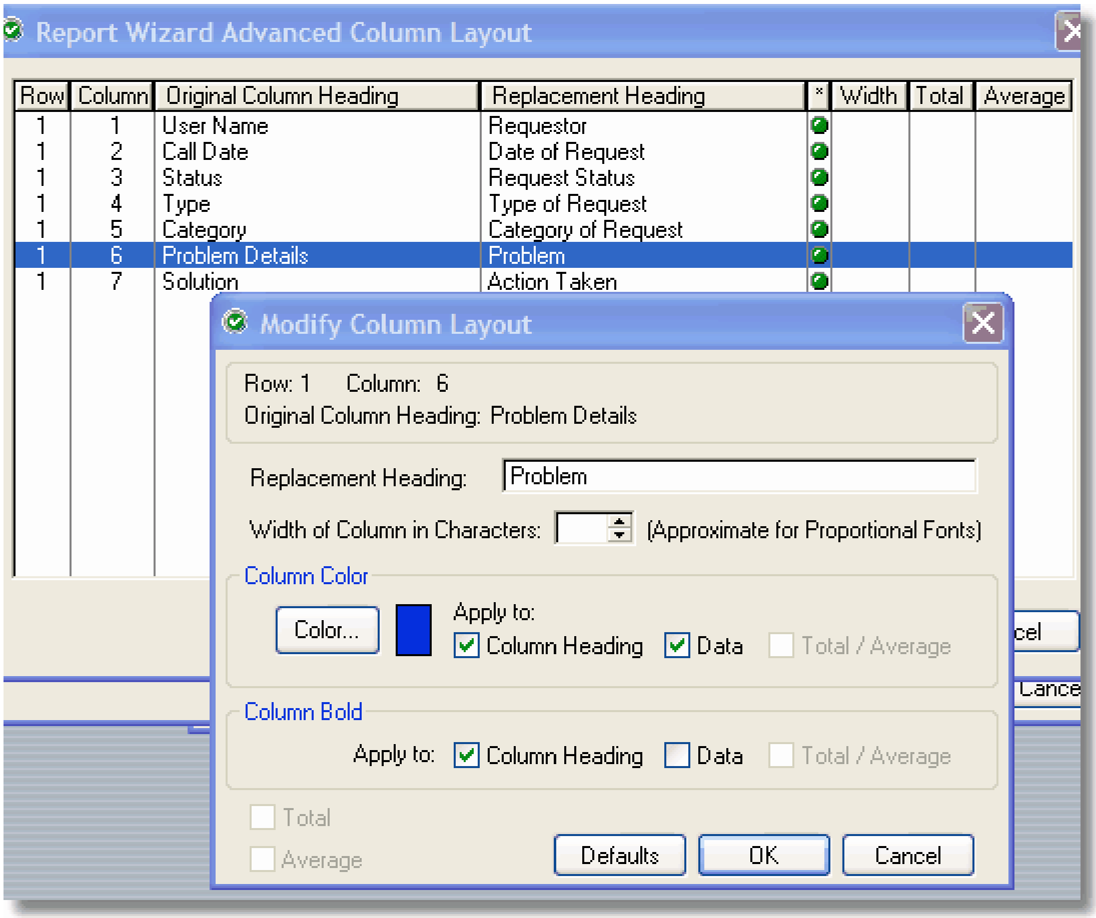
In the next few screens I will show you how to create a simple report. Just as with the Query Wizard when you launch the Report Wizard you will see a list of reports you have already created and saved with buttons to create a new report, modify an existing report, rename a report, delete a report you may no longer need, or to copy an existing report.



In this example I am modifying the report named Problems by User Name, this report description is used as the report title.

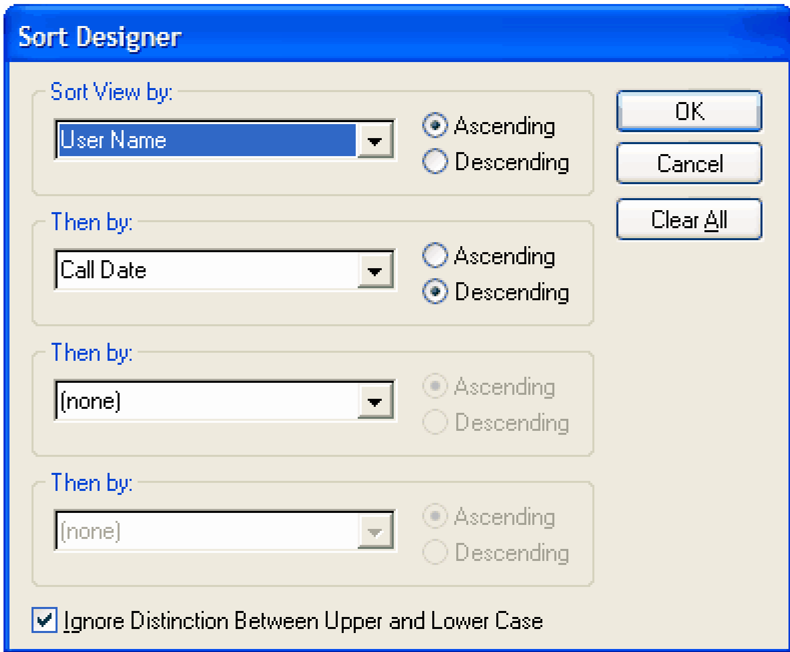


I start by just highlighting the fields on the left side and clicking the add button to add fields to the report. They will be printed in order right to left as displayed, but I can use the arrow buttons to move a field up or down on the report. Notice the Add Row button. If am creating a report with a lot of fields and they won't all fit on a single row, even in landscape mode, I can add a row and then add fields to that row. Most reports won't need an extra row. Notice the Advanced button. This gives you several options.

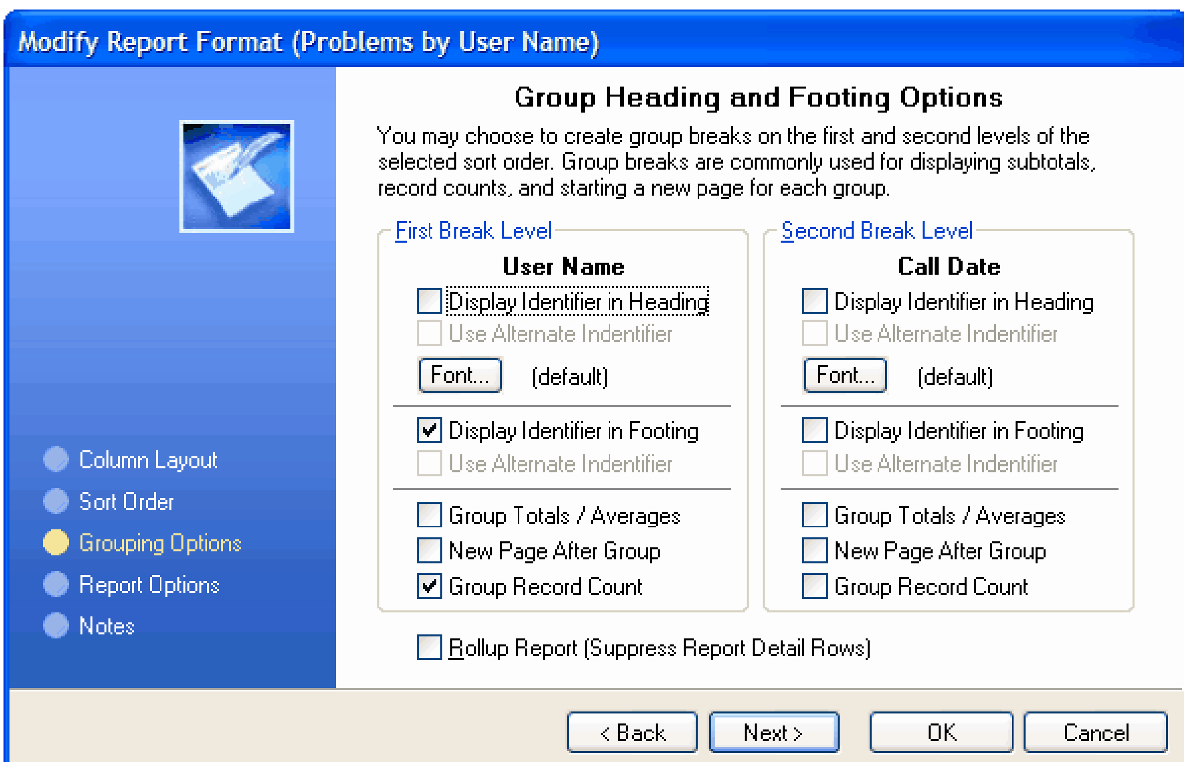


I can change the column heading for any and all columns by typing in a replacement heading. I can emphasize column headings, as well as column date but choosing a font color and checking boxes, and can also apply bold fonts to column heading and data. Any column I have modified from the default will show with a green icon next to it in the list. I can also customize the column width.

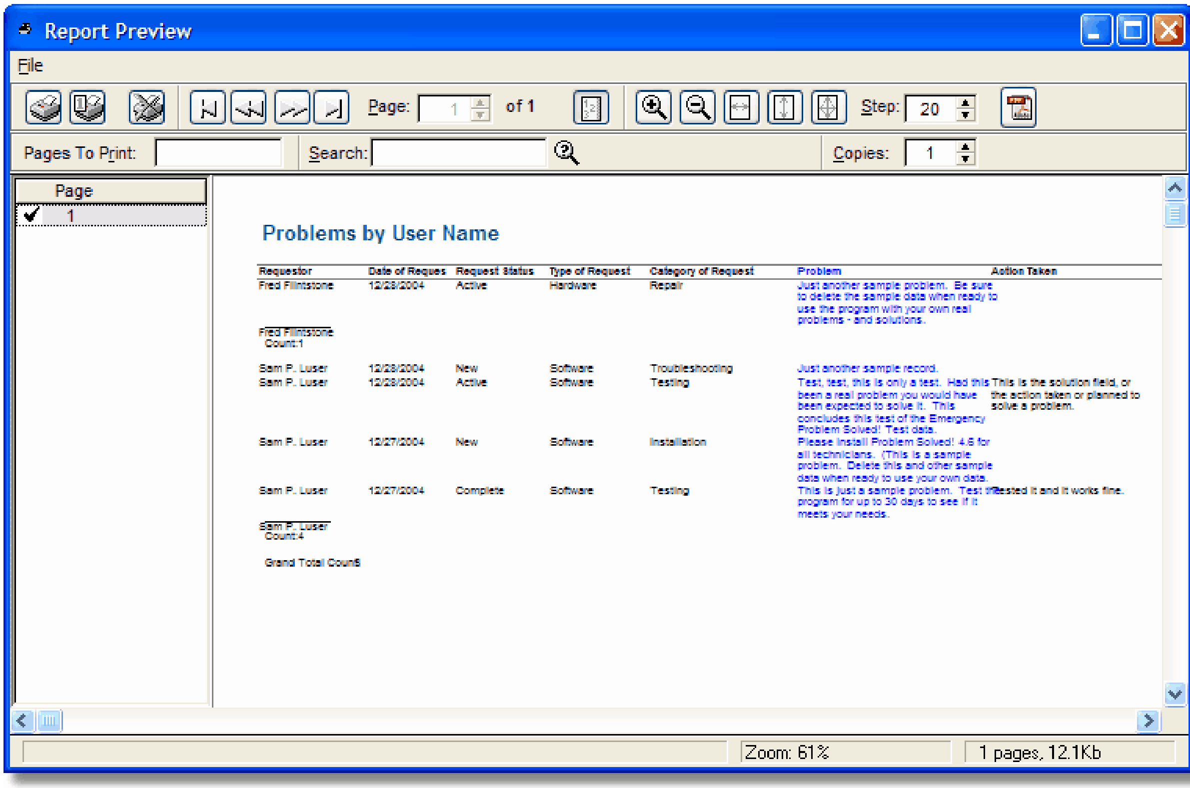
The next screen allows me to set the sort order for the report. If I choose a custom sort, I can sort on up to 4 different columns.



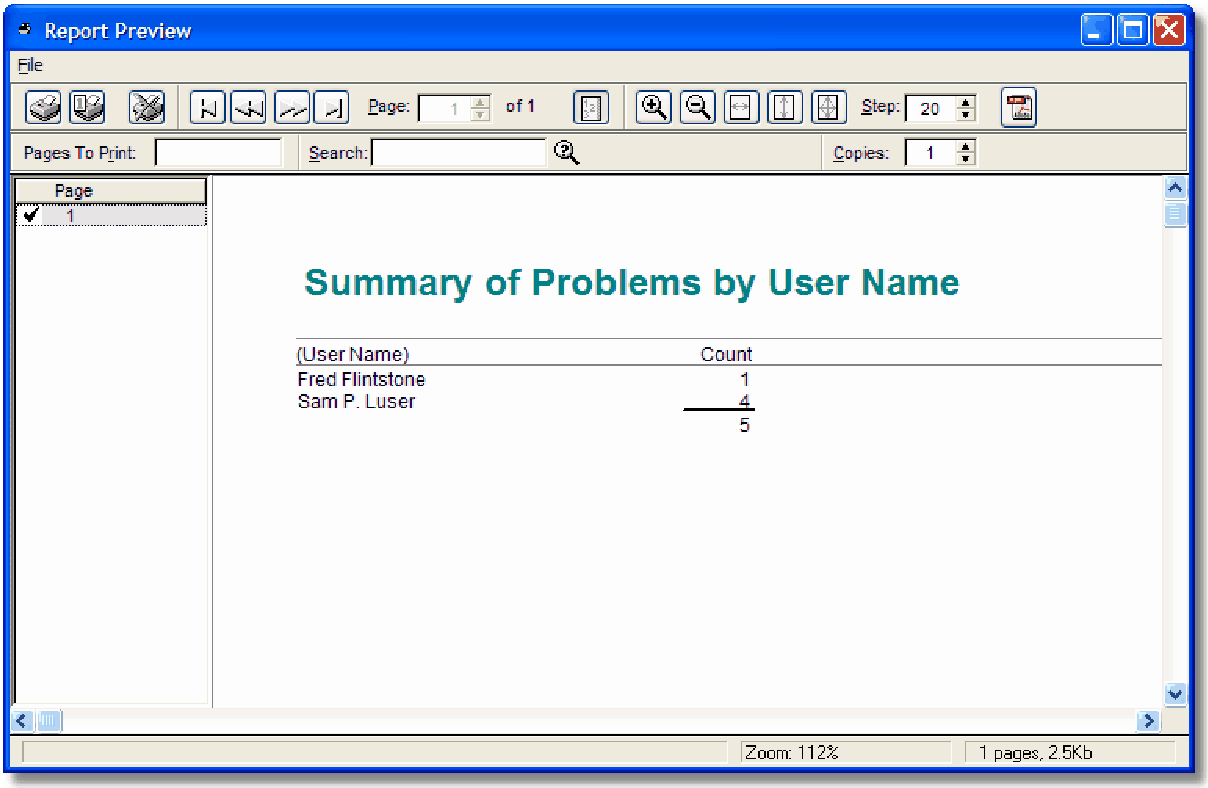
When I click the OK button and then Next, I have options for grouping the report, including record counts. I want to get a count of problems for each user name.



I could choose to have a new page after each group. But notice the Rollup Report option. This would suppress the report details and just show the record counts. When choosing that option, do not include the field on the report. You can still sort on columns even if they don't show up on the report. And if you are showing group counts on a roll up report, the column value will be displayed if you don't include the column. Anyway, below is my report without rolling it up.



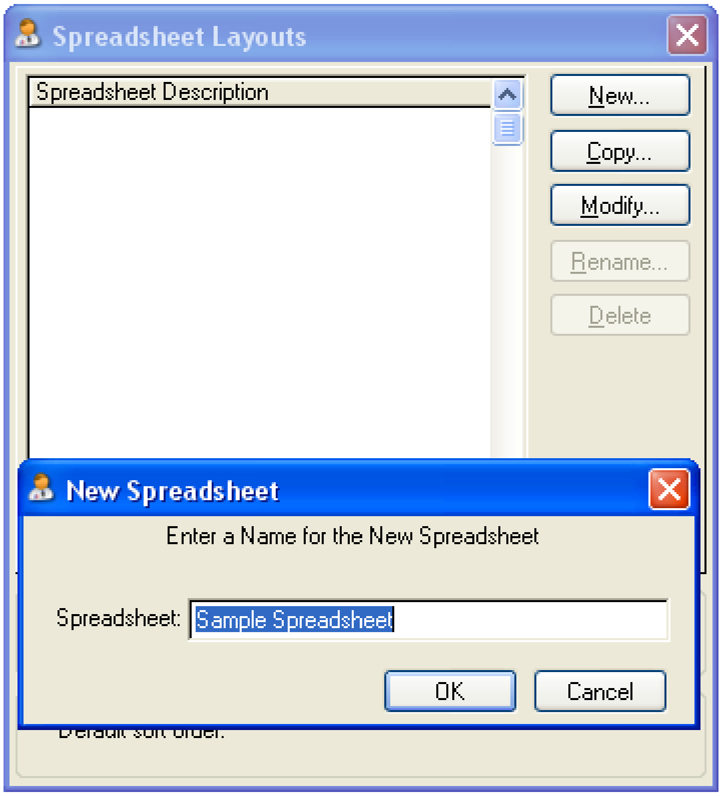
Next, I make a copy of this report, then modify the copy to make a roll up or summary report.



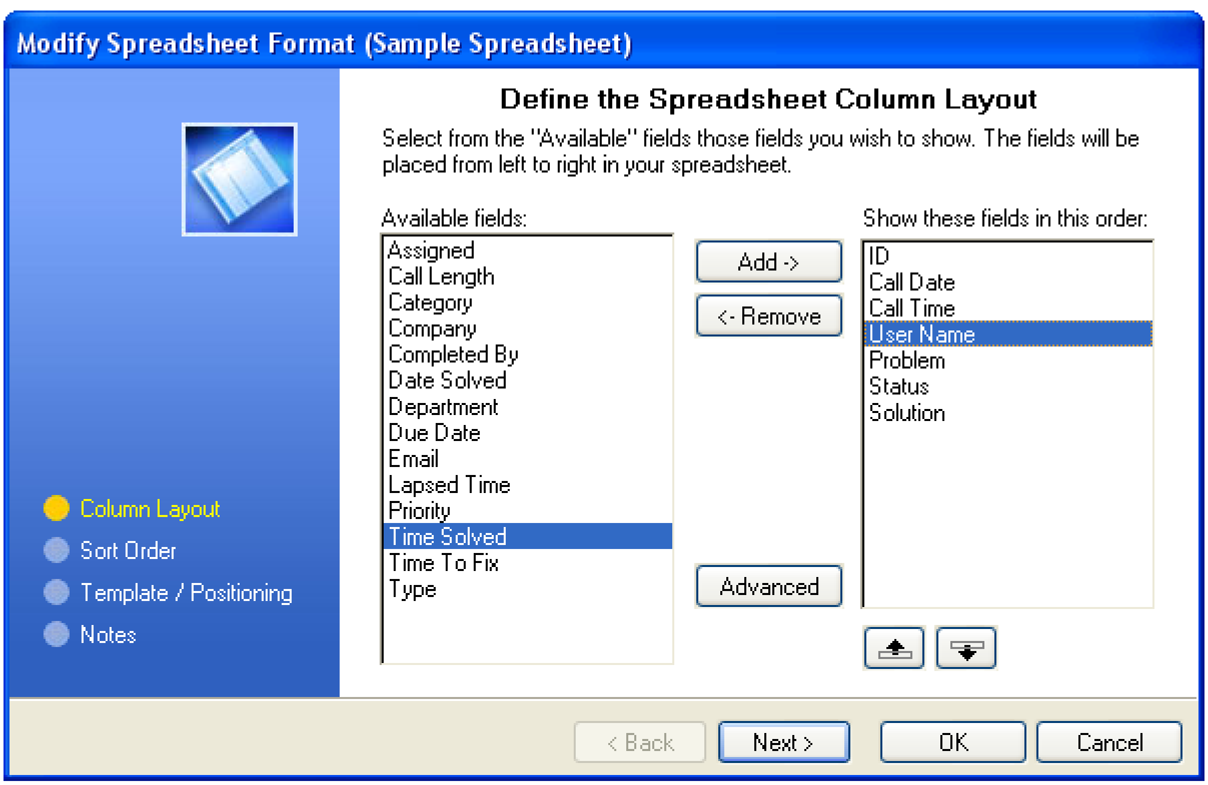
I hope you will like using the Report Wizard. If you have used earlier versions of Problem Solved! I think you will agree this version is much better.

5.2 Spreadsheet Wizard

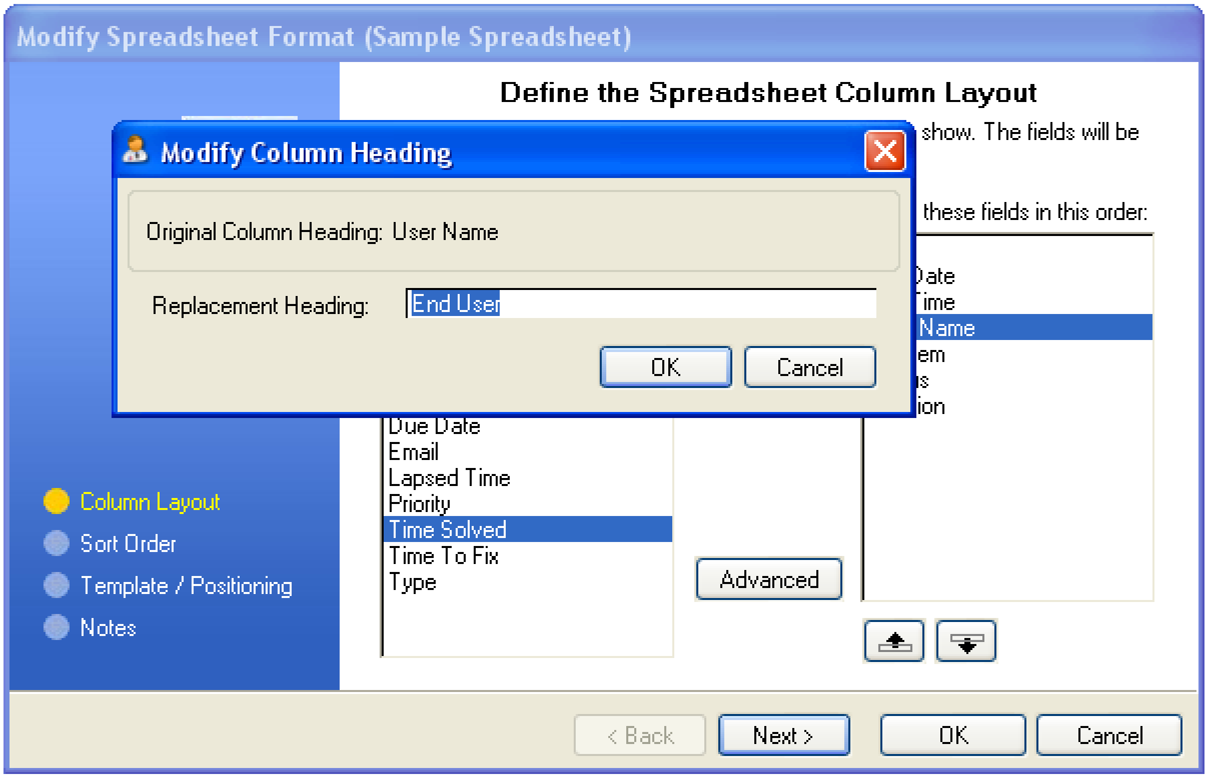
Creating reusable spreadsheet layouts for exporting your data using Microsoft Excel is easy with the spreadsheet wizard. The first step is to click the New button and give your layout a name.



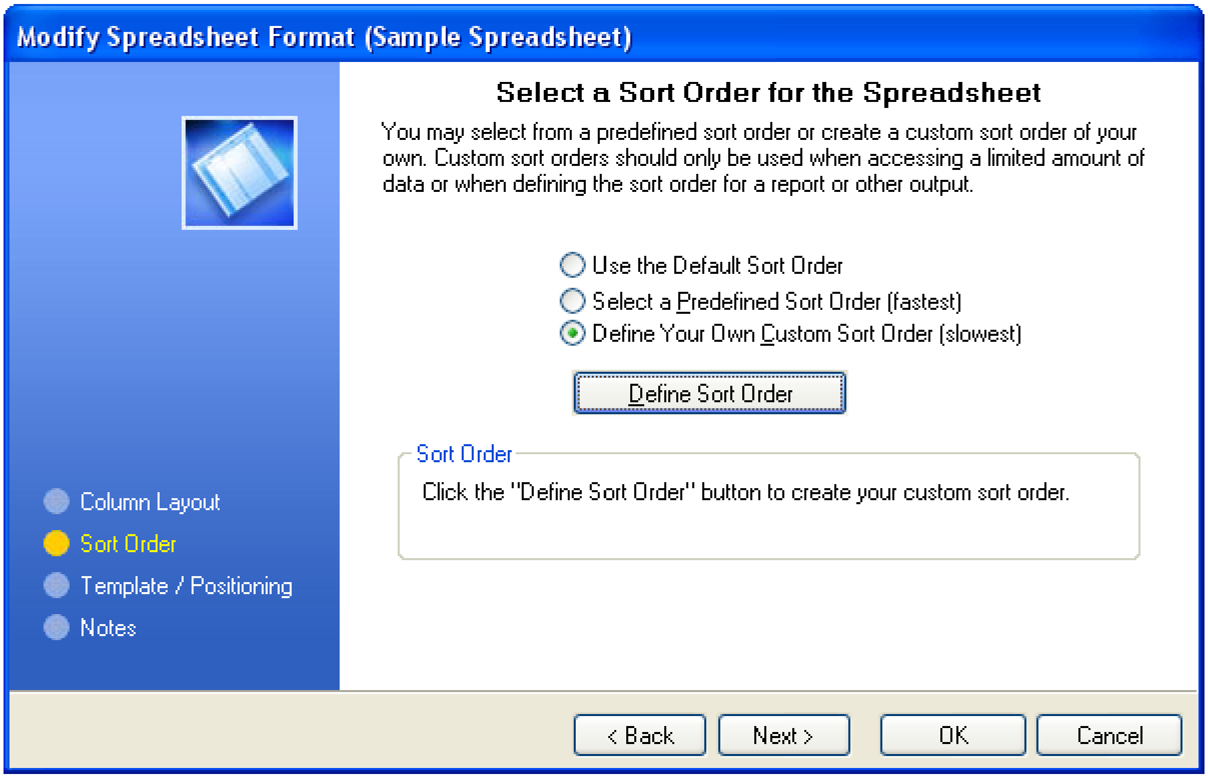
The next step is to choose the columns you want to include in the spreadsheet.



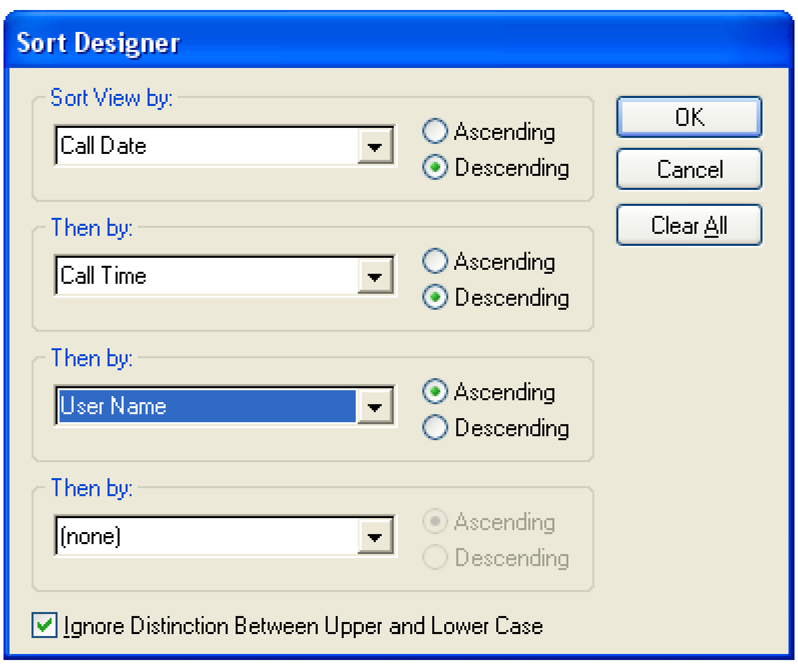
If you want to change a column heading, select the column in the list and click the Advanced button. Below I am changing the heading of User Name to End User.



The next step is to choose a sort order for the spreadsheet.



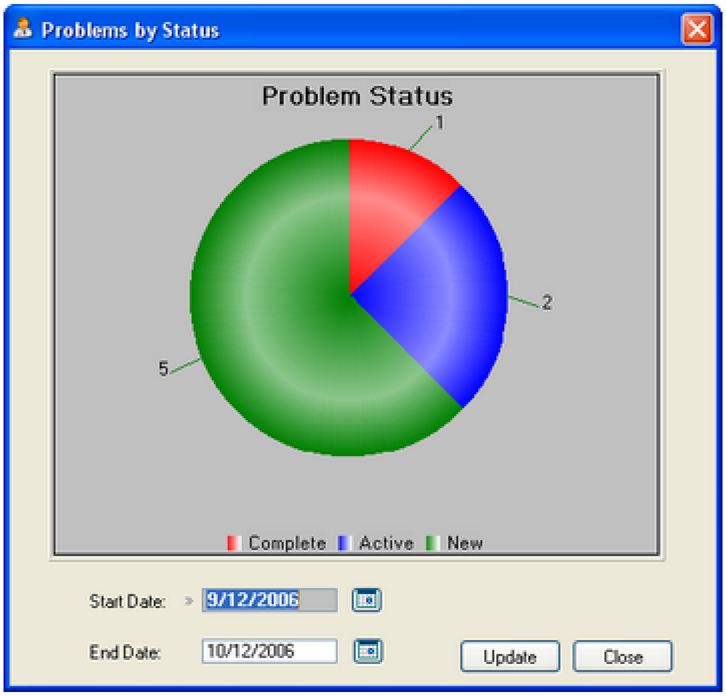
I have used the option to Define a Customer Sort Order and I can sort on up to 4 columns.

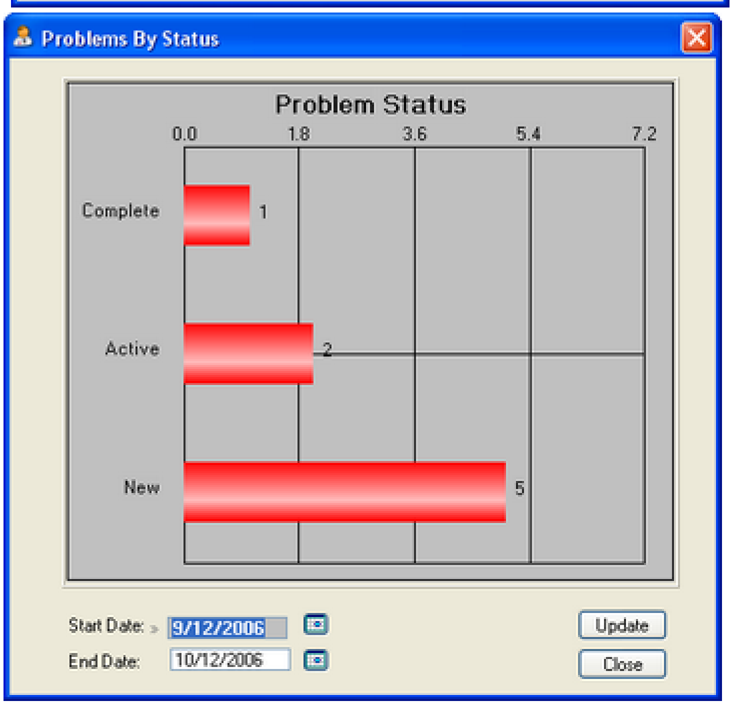


That's all there is to it. Now that you have saved a layout whenever you want to send data to a spreadsheet using the wizard, you need only select a layout from the list.

5.3 Graphical Reports

With this version of Problem Solved! I have included some graph or chart features. These may be useful as they say a picture is worth a thousand words. Screen shot examples below:





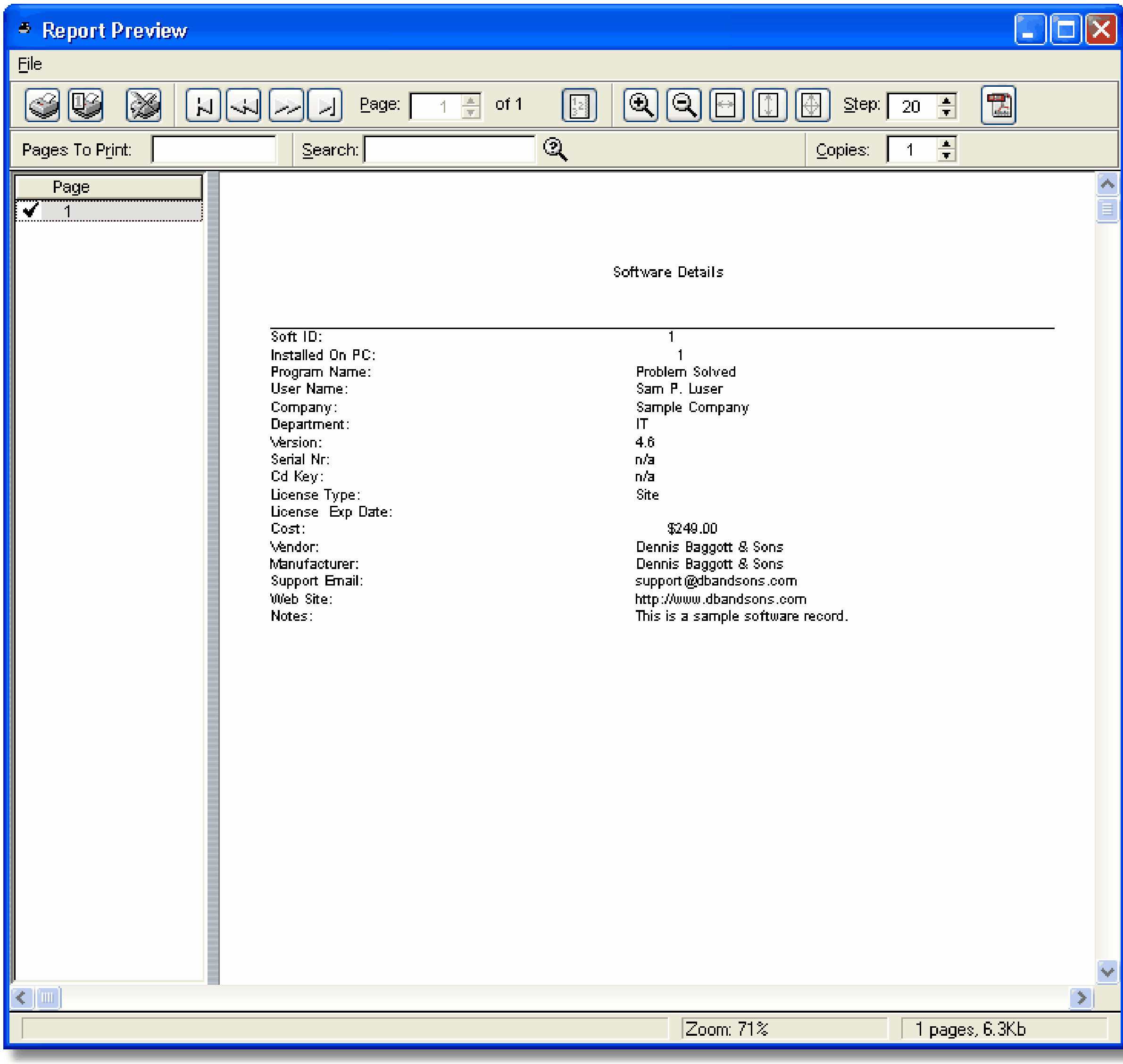
Notice the Start Date and Ending Date. By default the charts for problems will include records for the current date and 30 days back. You can change these dates, using the popup calendar or entering the data manually. However, you will then need to click the Update button to have the changes reflected on the Chart. In some charts, only the Top N number of items will be charted and the rest will be shown as "others". This may be helpful when for example you have hundreds of users, but only want to see those with the most requests.

In order to send the report to the printer, or save it as a graphic file, or just copy it to the clip board for inserting in a document you will want to right click on the chart area. You should see a pop up menu like below.

I hope you will find the addition of these charts useful to you.

5.4 Preview

The report preview window allows you to search for text in a report, then tag those pages for printing. It allows you to print all pages, a range of pages, or only the current page. Arrow icons let you move through the report as you preview it. You can also easily zoom in or zoom out. New in this version is the ability to save reports as PDF files. No external software is required to create the pdf files, but you will need the free reader software which can be downloaded from the Adobe web site.



6 Multi User Peformance Considerations

When multiple users are accessing the same database on the network, a number of factors can affect performance. The most important of these is Opportunistic Record Locks.

Below is some very useful information if you encounter any performance issues. This information is from Data Access Corporation and is included here per their copyright notice: " you are encouraged to reproduce this information in any format either on paper or electronically, in whole or in part. You may publish this paper as a stand alone document within your own publications conditional on the maintenance of the intent, context, and integrity of the material as it is presented here."

Web Site URL for the information below:

http://www.dataaccess.com/whitepapers/opportunlockingreadcaching.html

Opportunistic Locking and Read Caching
on Microsoft Windows Networks

A Data Access Worldwide White Paper
by Dennis Piccioni

May 14, 2002
Last Edited: December 5, 2003

Summary

Improperly configured Windows networks can lead to data corruption in any file system database, including DataFlex. Two Windows networking behaviors, opportunistic locking (on Windows servers) and read caching (on Windows clients) are the source of the corruption potential. This paper discusses these behaviors, their effects and what can be done to minimize the chances of data corruption on Windows networks when running Visual DataFlex (VDF) and/or DataFlex applications.

The information in this paper is compiled from the latest information regarding these issues from Microsoft's documentation, our own in-house testing and customer reports. This paper is intended to replace our previous documentation regarding these issues, which included an older white paper (Windows NT Networks Buffering with Windows 95 Clients) and several Knowledge Base articles. Please revisit this white paper from time to time to check for updated information. The Last Edited date at the top of the paper will reflect when the latest edits were made.

We have removed information from this white paper dealing with operating systems that we no longer support. You can view the Data Access Worldwide Supported Product list, which includes information on currently supported operating systems, here.

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* What is Read Caching?
* How Does This Affect Me?
* What Operating Systems Are Affected?
* Disabling Read Caching on Windows Workstations
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* Disabling Opportunistic Locking on Windows Workstations
* Do Coding Practices Affect These Issues
* Persistent Data Corruption
* Editing the Windows Registry
* Terms
* Additional Reading

What is Opportunistic Locking?

Opportunistic locking is a Windows-specific mechanism for client/server databases to allow multiple processes to lock the same file while allowing for local (client) data caching to improve performance over Windows networks. Unfortunately, the default setting of the opportunistic locking mechanism that enhances the performance of one type of database also introduces data integrity issues for other database types.

Microsoft's documentation states "An opportunistic lock (also called an oplock) is a lock placed by a client on a file residing on a server. In most cases, a client requests an opportunistic lock so it can cache data locally, thus reducing network traffic and improving apparent response time. Opportunistic locks are used by network redirectors on clients with remote servers, as well as by client applications on local servers" and "Opportunistic locks are requests from the client to the server. From the point of view of the client, they are opportunistic. In other words, the server grants such locks whenever other factors make the locks possible.".

You can read more about opportunistic locking in Microsoft's documentation. Please see the Additional Reading section for more information.

What is Read Caching?

Read caching is local caching of read data, sometimes referred to as read-ahead caching, on client (workstation) PCs. This type of caching is the default behavior of the Windows operating system to improve performance of client/server databases over Windows networks. The way it works is that workstations can read data from the server and keep a local copy of that data to reduce network traffic. As soon as that workstation writes any data, it should flush file buffers at that time, reread the data from the server and then commit the changes.

Problems with read caching usually occur if something unforeseen happens, such as a workstation crash, where data is not properly flushed from the workstation, which can lead to data corruption.

Microsoft's documentation states that "Under extreme conditions, some multiuser database applications that use a common data store over a network connection on a file server may experience transactional integrity issues or corruption of the database files and/or indexes stored on the server. This typically applies to some so-called "ISAM style", or "record oriented" multiuser database applications, not to a client/server relational system like SQL Server." and "A hazard of local caching is that written data only has as much integrity as the client itself for as long as the data is cached on the client. In general, locally cached data should be flushed to the server as soon as possible."

You can read more about read caching in Microsoft's documentation. Please see the Additional Reading section for more information.

How Does This Affect Me?

The DataFlex database is an ISAM database and thus more susceptible to the effects of the default Windows read caching and opportunistic locking settings than client/server databases. The best data integrity, security and performance is available by running your Visual DataFlex and DataFlex applications with a client/server database, such as Pervasive.SQL, IBM DB2 or Microsoft SQL.

Data Access Worldwide has direct drivers (Connectivity Kits) available for Pervasive.SQL, IBM DB2 and Microsoft SQL, as well as an ODBC Connectivity Kit for access to any ODBC-compliant databases. All of these drivers are loaded at runtime and require no coding changes to be used with existing VDF, DataFlex or WebApp Server applications.

Reliable database operation on Windows Networks can be achieved using the DataFlex database (Visual DataFlex embedded database), provided that the network is properly configured. You can use the information in this paper to set up your Windows network's opportunistic locking and read caching parameters.

Disabling opportunistic locking and read caching will have a performance impact on any database application, whether an ISAM database or client/server database is used, but it will not affect the data integrity of any database.

What Operating Systems are Affected?

All server computers running Windows operating systems in the NT family that host DataFlex data files accessed by other Windows PCs need to have opportunistic locking disabled in order to minimize the chances of database corruption. The NT family OS list includes Windows NT, Windows 2000, Windows XP and Windows 2003 Server.

All workstation computers running Windows operating systems in the 9X family running applications that use DataFlex data files hosted on NT family servers need to have read caching disabled in order to minimize the chances of database corruption. This includes Windows 98 and Windows ME.

Disabling Read Caching on Windows Workstations

All Windows operating systems in the 9X family that act as database clients for DataFlex data files (meaning that they access DataFlex data files stored on other Windows PCs) need to have read caching disabled in order to minimize the chances of database corruption. This includes Windows 98 and Windows ME.

The Windows registry entry that controls read caching on Windows network clients is:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\VxD\VREDIR

DiscardCacheOnOpen REG_BINARY 0 or 1
Default: 0 (not disabled)

To disable read caching, the value of DiscardCacheOnOpen must be set to 1.

You can verify (or change or add, if necessary) this Registry value using the Windows Registry Editor (regedit.exe).
If you do change this Registry value, you will have to reboot the PC to ensure that the new setting goes into effect.

Please read the Microsoft disclaimer regarding editing of the Windows registry here.

STEPS:

1. Start > Run > Regedit.exe
2. Click on the + (plus sign) next to HKey_Local_Machine
3. Click on the + (plus sign) next to System
4. Click on the + (plus sign) next to CurrentControlSet
5. Click on the + (plus sign) next to Services
6. Click on the + (plus sign) next to VxD
7. Click on the VREDIR entry on the left-hand side of Registry Editor

8. If the DiscardCacheOnOpen registry value already exists (on the right-hand side of Registry Editor), ensure that its value is 1

9. If the DiscardCacheOnOpen value already exists but its value is not 1, double-click on DiscardCacheOnOpen to change its value to 1

10. If the DiscardCacheOnOpen entry does not exist, right-click in the white space of the right-hand side of Registry Editor
11. Select New > Binary value
12. Rename the value to DiscardCacheOnOpen
13. Double-click on DiscardCacheOnOpen to change its value to 1

Disabling Opportunistic Locking on Windows Servers

All Windows operating systems in the NT family that act as database servers for DataFlex data files (meaning that DataFlex data files are stored there and accessed by other Windows PCs) need to have opportunistic locking disabled in order to minimize the chances of database corruption. This includes Windows NT, Windows 2000, Windows XP and Windows 2003 Server.

There are 2 Windows registry entries that control opportunistic locking (oplocks) on Windows network servers:

1. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters EnableOpLockForceClose
2. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters EnableOplocks

1. EnableOpLockForceClose

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters

EnableOpLockForceClose REG_DWORD 0 or 1
Default: 0 (not disabled)

To disable oplocks, the value of EnableOpLockForceClose must be set to 1.

You can verify (or change or add, if necessary) this Registry value using the Windows Registry Editor (regedit.exe).
If you do change this Registry value, you will have to reboot the PC to ensure that the new setting goes into effect.

Please read the Microsoft disclaimer regarding editing of the Windows registry here.

STEPS:

1. Start > Run > Regedit.exe
2. Click on the + (plus sign) next to HKey_Local_Machine
3. Click on the + (plus sign) next to System
4. Click on the + (plus sign) next to CurrentControlSet
5. Click on the + (plus sign) next to Services
6. Click on the + (plus sign) next to LanManServer
7. Click on the Parameters entry on the left-hand side of Registry Editor

8. If the EnableOpLockForceClose registry value already exists (on the right-hand side of Registry Editor), ensure that its value is 1

9. If the EnableOpLockForceClose value already exists but its value is not 1, double-click on EnableOpLockForceClose to change its value to 1

10. If the EnableOpLockForceClose entry does not exist, right-click in the white space of the right-hand side of Registry Editor
11. Select New > DWORD value
12. Rename the value to EnableOpLockForceClose
13. Double-click on EnableOpLockForceClose to change its value to 1

2. EnableOplocks

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters

EnableOplocks REG_DWORD 0 or 1
Default: 1 (true)

To disable oplocks, the value of EnableOplocks must be set to 0.

You can verify (or change or add, if necessary) this Registry value using the Windows Registry Editor (regedit.exe).
If you do change this Registry value, you will have to reboot the PC to ensure that the new setting goes into effect.

Please read the Microsoft disclaimer regarding editing of the Windows registry here.

STEPS:

1. Start > Run > Regedit.exe
2. Click on the + (plus sign) next to HKey_Local_Machine
3. Click on the + (plus sign) next to System
4. Click on the + (plus sign) next to CurrentControlSet
5. Click on the + (plus sign) next to Services
6. Click on the + (plus sign) next to LanManServer
7. Click on the Parameters entry on the left-hand side of Registry Editor

8. If the EnableOplocks registry value already exists (on the right-hand side of Registry Editor), ensure that its value is 0

9. If the EnableOplocks value already exists but its value is not 0, double-click on EnableOplocks to change its value to 0

10. If the EnableOplocks entry does not exist, right-click in the white space of the right-hand side of Registry Editor
11. Select New > DWORD value
12. Rename the value to EnableOplocks
13. Double-click on EnableOplocks to change its value to 0

Note: The location of the registry entry for opportunistic locking has changed in Windows 2000 from the earlier location in Microsoft Windows NT. In Windows 2000, the registry entry that disables opportunistic locking is:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\MRXSmb\Parameters\

OplocksDisabled REG_DWORD 0 or 1
Default: 0 (not disabled)

To disable oplocks, the value of OplocksDisabled must be set to 1.

Note: Windows 2000 will still respect the EnableOplocks registry value used to disable oplocks in earlier versions of Windows.

Disabling Opportunistic Locking on Windows Workstations

All Windows operating systems in the NT family that act as database servers for DataFlex data files (meaning that DataFlex data files are stored there and accessed by other Windows PCs) need to have opportunistic locking disabled in order to minimize the chances of database corruption. This includes Windows NT, Windows 2000 and Windows XP.

If you use a Windows NT family workstation in place of a server, you must also disable opportunistic locking (oplocks) on that workstation. For example, if you use a PC with the Windows NT Workstation operating system instead of Windows NT Server, Windows 2000 Professional instead of Windows 2000 Server, or Windows XP Home instead of Windows XP Professional, and you have DataFlex data files located on it that are accessed from other Windows PCs, you will need to disable oplocks on that system.

The major difference is the location in the Windows registry where the values for disabling oplocks are entered. Instead of the LanManServer location, the LanManWorkstation location is used here.

There are 2 Windows registry entries that control opportunistic locking (oplocks) on Windows network workstations:

1. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters
EnableOpLockForceClose

2. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters EnableOplocks

1. EnableOpLockForceClose

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters

EnableOpLockForceClose REG_DWORD 0 or 1
Default: 0 (not disabled)

To disable oplocks, the value of EnableOpLockForceClose must be set to 1.

You can verify (or change or add, if necessary) this Registry value using the Windows Registry Editor (regedit.exe).
If you do change this Registry value, you will have to reboot the PC to ensure that the new setting goes into effect.

Please read the Microsoft disclaimer regarding editing of the Windows registry here.

STEPS:

1. Start > Run > Regedit.exe
2. Click on the + (plus sign) next to HKey_Local_Machine
3. Click on the + (plus sign) next to System
4. Click on the + (plus sign) next to CurrentControlSet
5. Click on the + (plus sign) next to Services
6. Click on the + (plus sign) next to LanManWorkstation
7. Click on the Parameters entry on the left-hand side of Registry Editor

8. If the EnableOpLockForceClose registry value already exists (on the right-hand side of Registry Editor), ensure that its value is 1

9. If the EnableOpLockForceClose value already exists but its value is not 1, double-click on EnableOpLockForceClose to change its value to 1

10. If the EnableOpLockForceClose entry does not exist, right-click in the white space of the right-hand side of Registry Editor
11. Select New > DWORD value
12. Rename the value to EnableOpLockForceClose
13. Double-click on EnableOpLockForceClose to change its value to 1

2. EnableOplocks

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanManWorkstation\Parameters

EnableOplocks REG_DWORD 0 or 1
Default: 1 (true)

To disable oplocks, the value of EnableOplocks must be set to 0.

You can verify (or change or add, if necessary) this Registry value using the Windows Registry Editor (regedit.exe).
If you do change this Registry value, you will have to reboot the PC to ensure that the new setting goes into effect.

Please read the Microsoft disclaimer regarding editing of the Windows registry here.

STEPS:

1. Start > Run > Regedit.exe
2. Click on the + (plus sign) next to HKey_Local_Machine
3. Click on the + (plus sign) next to System
4. Click on the + (plus sign) next to CurrentControlSet
5. Click on the + (plus sign) next to Services
6. Click on the + (plus sign) next to LanManWorkstation
7. Click on the Parameters entry on the left-hand side of Registry Editor

8. If the EnableOplocks registry value already exists (on the right-hand side of Registry Editor), ensure that its value is 0

9. If the EnableOplocks value already exists but its value is not 0, double-click on EnableOplocks to change its value to 0

10. If the EnableOplocks entry does not exist, right-click in the white space of the right-hand side of Registry Editor
11. Select New > DWORD value
12. Rename the value to EnableOplocks
13. Double-click on EnableOplocks to change its value to 0

Do Coding Practices Affect These Issues?

* If your application code uses DataDictionaries and/or Data_Sets, there should be there should be no data integrity problems after opportunistic locking and read caching have been disabled.

Customers have reported that with application code that does not use Data Dictionaries and/or Data Sets (for example, in a Find loop using the record buffer for finding), data in records that is new or edited since the data was first accessed will still not be retrieved properly, even with opportunistic locking and read caching disabled. Workarounds for this condition are to do the Find in a locked state or issuing a Reread command after each record is found (remember to issue an unlock command after the reread as a reread performs a lock as part of its functionality). We will publish any additional information we obtain about how to get around this Microsoft operating system problem when it becomes available.

* We have tried using the Win32 FlushFileBuffers Windows API function that Microsoft recommends in their documentation in the Visual DataFlex/DataFlex runtime when the DF_HIGH_DATA_INTEGRITY attribute was turned on. However, application performance degraded to the point that it was virtually unusable when doing so, because this Windows API function is a very generic call that flushes all buffers on a workstation instead of just those used by one application.

Persistent Data Corruption

If you have applied all of the settings discussed in this paper but data corruption problems and other symptoms persist, here are some additional things to check out:

* We have credible reports from developers that faulty network hardware, such as a single faulty network card, can cause symptoms similar to read caching and data corruption.
* If you see persistent data corruption even after repeated reindexing, you may have to rebuild the data files in question. This involves creating a new data file with the same definition as the file to be rebuilt and transferring the data from the old file to the new one. There are several known methods for doing this that can be found in our Knowledge Base.

Editing the Windows Registry

Caution: The following warning appears in every Microsoft Knowledge Base article that discusses editing the Windows registry:

WARNING : You can edit the registry by using Registry Editor (Regedit.exe or Regedt32.exe). If you use Registry Editor incorrectly, you can cause serious problems that may require you to reinstall your operating system. Microsoft does not guarantee that problems that you cause by using Registry Editor incorrectly can be resolved. Use Registry Editor at your own risk.

Terms

* ISAM
Indexed Sequential Access Method is a file management system developed at IBM that allows records to be accessed either sequentially (in the order they were entered) or randomly (with an index).

Additional Reading

* You may want to check for an updated version of this white paper on our Web site from time to time. Many of our white papers are updated as information changes. For those papers, the Last Edited date is always at the top of the paper.

* Section of the Microsoft MSDN Library on opportunistic locking:
Opportunistic Locks, Microsoft Developer Network (MSDN), Windows Development > Windows Base Services > Files and I/O > SDK Documentation > File Storage > File Systems > About File Systems > Opportunistic Locks, Microsoft Corporation.
URL=http://msdn.microsoft.com/library/en-us/fileio/base/opportunistic_locks.asp

* Microsoft Knowledge Base Article Q224992 "Maintaining Transactional Integrity with OPLOCKS", Microsoft Corporation, April 1999, URL=http://support.microsoft.com/default.aspx?scid=kb;en-us;Q224992

* Microsoft Knowledge Base Article Q296264 "Configuring Opportunistic Locking in Windows 2000", Microsoft Corporation, April 2001, URL=http://support.microsoft.com/default.aspx?scid=kb;en-us;Q296264

* Microsoft Knowledge Base Article Q129202 "PC Ext: Explanation of Opportunistic Locking on Windows NT", Microsoft Corporation, April 1995, URL=http://support.microsoft.com/default.aspx?scid=kb;en-us;Q129202

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