Integration Technologies Group, Inc.

TRAMReports ™ Operations Manual

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Introduction

TRAMReports™ is a front-end point and click analytical application that allows examination of multiple relational or non-relational data sources simultaneously.

It is an excellent demonstration tool that provides the direct means to understand inconsistencies of data population or anomalies without depending on the creation of SQL statements or links.

TRAMReports™ is a good starting point to implement a management process, which ensures a contiguous operational flow or data integrity to enable sound business decisions.

TRAMReports™ connects with multiple databases simultaneously. (*ORACLE, MS SQL*, *Microsoft Access*, and more) **TRAMReports™** recognizes any pre-defined relationships automatically and can join two or more different data sources together as long as the data types are the same.

Here are some benefits that **TRAMReports™** can provide:

- Comprehensive understanding of your data source(s) schematic.
- Recognition of operational differences or data anomalies.
- Decrease the learning curve to understanding a newly acquired data source(s).
- Retrieve and refresh real-time or near real-time data into reports directly from the selected data source(s) on an ad-hoc basis.
- Validate data entries.
- Locate specific data elements rapidly.
- Leverage as a RAD (Rapid Application Development) utility.
- Perform data analysis.
- Calculate statistics.

Who should use TRAMReports™?

- IT Development Group
- Business Analysts
- Database Administrators (Medical, Records, Financial Transactions, Advertisement, Bank and Supply Chain Research)
- Systems Analysts (Financial, Inventory, Insurance, Government or Management)
- Operation Managers

Example of TRAMReports™ Outputs:

- Compare data outputs from two or more distinct databases.
- Isolate differences between expected outputs from more than one data source down to the field level.
- Simulate relations by combining multiple tables or more than one data source from different databases.
- Distinguish differences in numeric and text values from different data sources.
- Ability to create ad-hoc reports on more than one database simultaneously.

Industry Specific Examples:

- Total dollar amounts of credit card transactions compared to available credit limit.
- List all of the manufactures, makes, models and serial numbers of equipment items covered under contract.
- Track the number of prescriptions distributed on a specific drug.
- Determine the average number of claims on a vehicle.
- Tally the number of arrests associated to a particular crime.
- Generate statistics on financial portfolios.
- Identify point of contact names and phone numbers.
- Quantify available inventory.

Automatic Notifications:

- Create and Send **TRAMReports™** via e-mail.
- Send **TRAMReports™** alerts automatically based on certain conditions of the database.

Extract TRAMReports™ into different file Formats:

- *MS Excel*
- *MS Access*
- Text Format (.txt)
- Comma Separated Value (.csv)

Audience

This operations manual will assist you in the use of **TRAMReports™** standard trial version 1.5. The user should be proficient with *Microsoft© Office 97*. **It is highly recommended that the user be familiar with data source(s)' data being accessed and/or have the authority to access all of the data within the data source(s) selected.**

TRAMReports™ 30-day Trial Offer

Integration Technologies Group is offering you this 30-day trial offer to see the power of **TRAMReports™** yourself! When you decide that you would like to purchase **TRAMReports™**, ***ITG*** will provide you the opportunity to obtain a **TRAM Key** to extend the use of **TRAMReports™,** beyond the 30 days, allowing you the ability to carry over any previously created work.

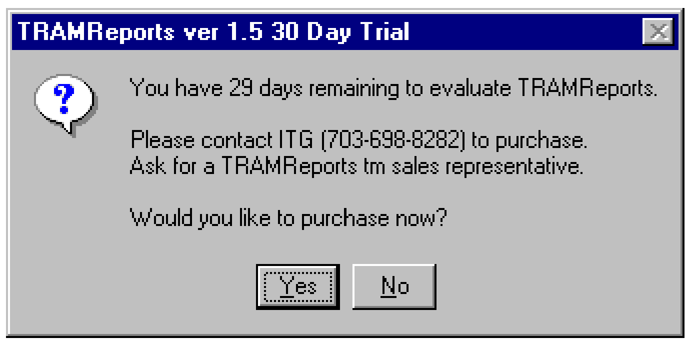
TRAMReports™ Minimum Requirements:

Computer/Processor		PC with Pentium II or higher processor.
Memory		32MB RAM minimum, 64MB RAM recommended.
Hard Disk		40MB free disk space minimum, continued usage enlarges database. 60MB free disk space recommended.
Drive		CD-ROM drive (for installation media only).
Display		VGA monitor; Super VGA recommended, 800 x 600 resolution minimum.
Operating System		Windows® 98, NT Workstation 4.0 Service Pack 3 or later. (**Known error:** Exiting Windows 2000 may generate an ungraceful exit).
Additional Applications		*Microsoft* Data *Access* Components (MDAC) 2.5 Service Pack 1 (2.51.5303.5), Adobe Acrobat Reader 4.0.
Administration		Administrator Privileges

TRAMReports™ Installation:

- **You must have administrator privileges.**

1. Prior to installation, **exit** and **close** all programs currently opened before the initialization of **TRAMReports™.**
2. **Install** the 30-day trial **TRAMReports™** by placing the **TRAMReports™** CD in the **CD ROM drive.**
   - The installation will not run automatically.
   - **Recommended:** Click on the **TRAMReports™ test installation icon** to confirm and review proper configuration requirements.
   - **Select** appropriate **CD ROM drive icon** to launch **TRAMReports™**.
3. **Execute** the Wizard Procedures and follow screen instructions, for system installation to coincide with a direct install.
4. **Launch TRAMReports™** and the following message will be displayed:



1. **Select** "Yes" to purchase now or "No" to evaluate the **TRAMReports™.** (To keep TRAMReports™ active on the current location beyond the 30-day trial period, **TRAMReports™** must be purchased**.**)
2. **The install automatically maps the "qualified" system DSNs and drivers associated on the client's machine. (If the DSNs are not recognized, check the System DSNs within the ODBC settings within the control panel to verify the DSN path.)**

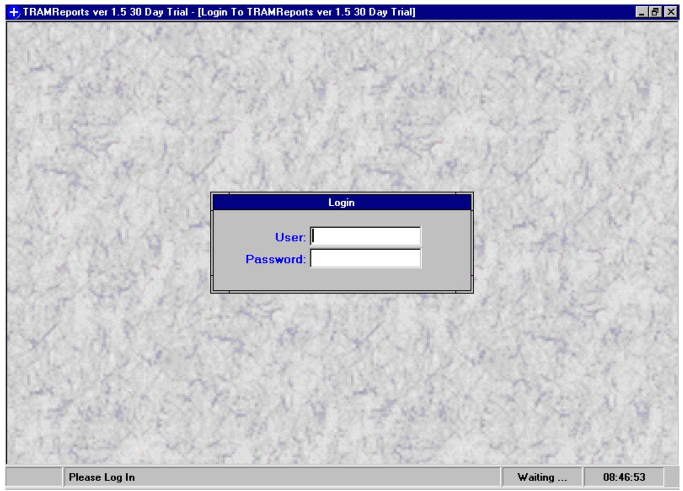
Here are the qualified drivers for *Oracle*, *Access*, *MS SQL* and *VFP:*

ID	Driver	Name
1	MSORCL32.DLL	*Microsoft* ODBC for *Oracle*
2	ODBCJT32.DLL	*Microsoft Access* Driver (*.mdb)
3	SQLSRV32.DLL	*MS SQL* Server
4	VFPODBC.DLL	*Microsoft Visual Fox Pro* Driver

3. **Initial launch time will vary according to the number of system Data Source Names (DSNs) that need to be mapped on the client machine. After the initial mapping of the desired data sources you can shut off mapping to decrease launch time.** (See instructions on the Manage DSN feature.)

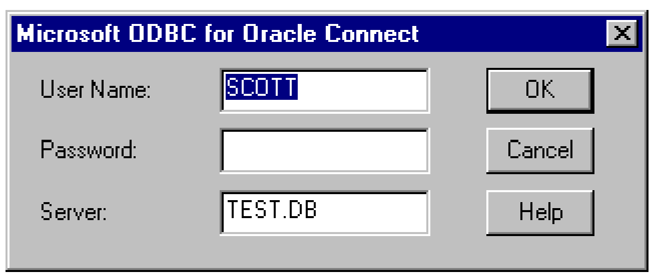
TRAMReports™ Installation Continued:

4. Once the installation has been completed, the following **TRAMReports™** Login screen will appear:



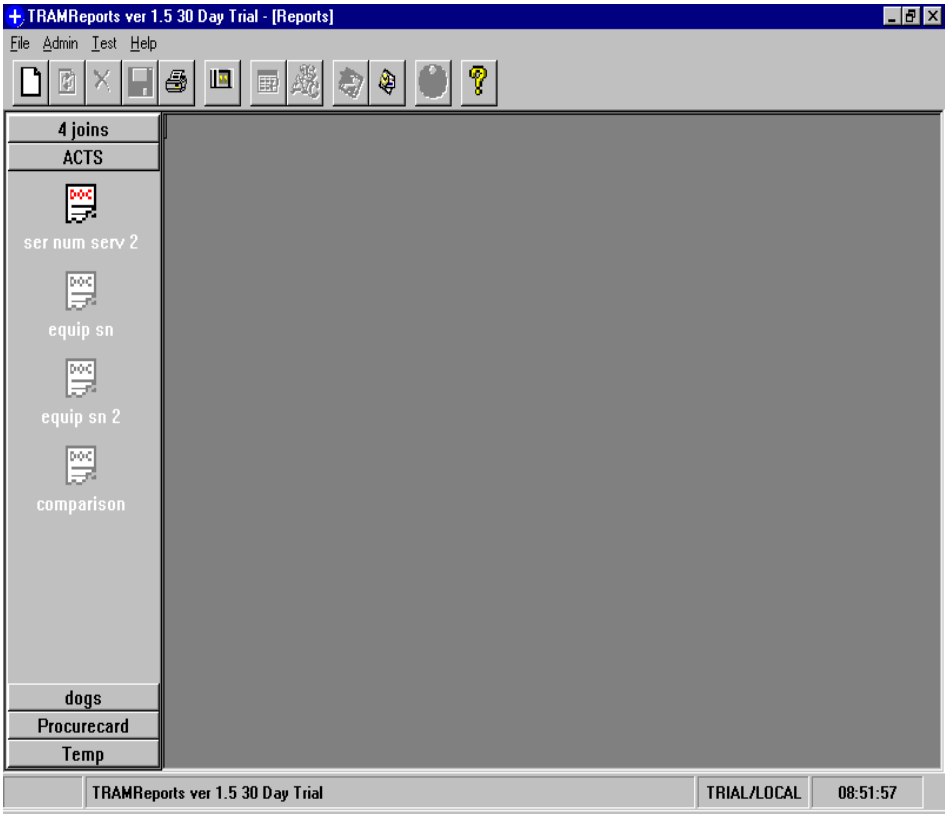
5. To access **TRAMReports™** press the **Enter Button** twice to bypass the **User Id** and **Password** Login window.

6. Any DSNs that are mapped and/or previously mapped that require a network password should be entered when logging into **TRAMReports™** upon receipt of the corresponding prompt, in order to secure access to the data source. **(See below example of *Microsoft* ODBC for *Oracle* Connect.)**



TRAMReports™ Installation Continued:

7. After the login has been entered, the **TRAMReports™** Main Screen will appear:



>Status Bar

TRAMReports™ main screen consists of the following:

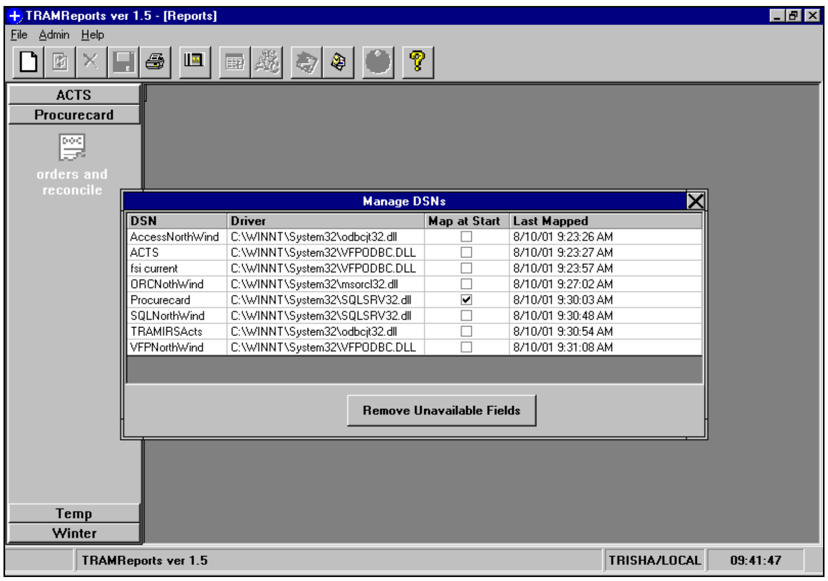
- Menu bar
- Tool bar
- Report Group List (Located on the left)
- Report Area (Gray area)
- Status Bar (Located at the bottom of the screen: **notifications, ID/connection, System time**)

Turn off Mapping

The **Manage DSN** feature decreases **TRAMReports™** start up time utilized for mapping associated DSN(s). *After* the DSN(s) have been defined and mapped using **TRAMReports™,** the user has the option to deactivate any of the DSN(s) from being mapped every time **TRAMReports™** is launched.

Manage DSN Instructions:

1. **Select** "File" and from the drop down menu **select** "Manage DSN".
    - The following **Manage DSN** screen will appear:



All of the currently or previously mapped DSNs will be presented in a grid that displays the following:

- **DSN Name**: (Data Source Name)
- **Driver**: (Qualified Driver)
- **Map at Start:** Check marks default in the **"Map at Start"** to map every **"qualified"** DSN on every **TRAMReports™** initial launch.
- **Last Mapped:** Mini-audit trail to reference the last time each DSN was mapped.

2. **Deselect** any **DSN** check marked boxes within **"Map at Start"** that are not desired to map every time **TRAMReports™** is launched.
3. **Insert** a check mark to map a **DSN** to be **"Map at Start".** This will map the selected DSN every time **TRAMReports™** is launched. **(This option must be used when a change in the data structure occurs.)**

Manage DSN Instructions Continued:

Important: It is imperative to annotate each time a DSN's structure changes, the DSN must be re-mapped and any previously created reports will not recognize data structure changes and data updates.

Therefore, new reports must be generated from the modified data source. Any previously created work will not be available for *updated* data changes.

If the user accesses a previously generated report from a disassociated DSN, the end-user will have the option to see the previously extracted data by selecting yes, after the following message has been received.

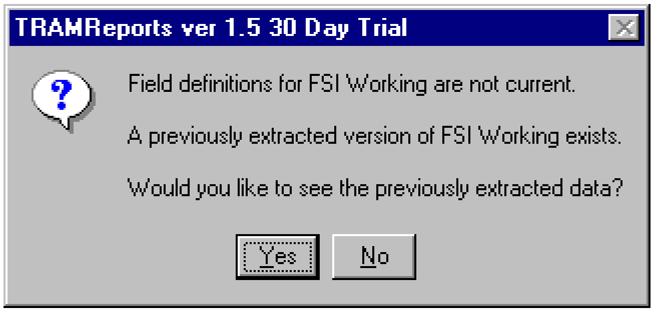


Table and Field Access Changes:

When the System Administrator adjusts individuals' profiles and they do not want the end-user to access certain data within a data source using **TRAMReports™.** The data elements will no longer be available to that end-user.

To adjust what data is available to the end-user you can either remove the DSN from the ODBC settings or modify the end-user's profile.

After any changes have been made to the end-user's profile, you can access the manage DSN screen within **TRAMReports™** and remove unavailable table and fields by **selecting** the **corresponding DSN** and **clicking** on the **remove unavailable fields button**.

Note: The DSN name, tables and field names within the table structure will be visible to the end-user but the end-user will no longer have access to that specific data.

- This design ensures lower maintenance efforts for when user's profiles need to be modified.

TRAMReports™ Menu bar:

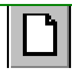
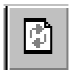
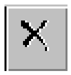
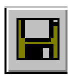
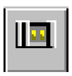
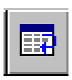
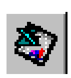
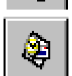
The **Main Screen Menu Bar** has the following function buttons **File**, **Admin and Help,** each button has a drop down menu.

File	Function
Create DSN	Maps selected data source name
Manage DSN	Manages mapping of DSNs
Table and Field Aliases	Allows the user to translate field and label names.
New	Creates a new report and opens the Report Designer Window.
Open	Opens a **TRAMReports™** Data File
Save	Saves the report in a Report Group with user given name.
Print	Opens the Print Preview Window and give print options
Print to File (.DAT)	Saves current **TRAMReports™** data file (this format can be viewed other TRAM users only.)
Print to File (.CSV) or (.TXT)	Saves current report as a text file in either, Comma Separated values or Tab delimited.
Exit	Exits the program

Admin	Function
Users	User Administration
Manage DSN	Review SQL statement for extractions generated.

Help	Function
Help	**TRAMReports™** Operational guide
About	**TRAMReports™** license

TRAMReports™ toolbar options from the main screen:

BUTTON	Title	Function
	**New Report**	**Opens** a new report and displays the **Report Designer** window to create new reports.
	**Refresh Report**	**Refreshes** the Report grid and generates any available data changes and updates the report selected.
	**Delete Report**	**Deletes** the current report selected. (Right click the report icon to ensure activation of the delete button.)
	**Save/Copy/Move Report**	**Saves** the Report and allows the end-user to place reports in a **designated Report Group with the user defined name**.
	**Print Report**	**Opens** the **Print Preview** Window. To **Print** reports press the **printer icon** in the **print preview window**.
	**Hide Report Bar**	**Hides**/Displays the Report Group List box, located on the left hand side of the original **TRAMReports™** screen**.**
	**Report Designer**	**Opens** the Report Designer Window to allow the end-user to select desired data, sort, filter, create relations and compare values, create joins and field/numeric compares.
	**Header/Footer & Subtotals**	**Opens** the **Header/Footer/Subtotals** Window. This feature allows the creation of headers, footers and subtotals. (& Suppress Subtotals)
	**Alert**	Will allow the end-user to **create** alerts and send reports to other **TRAMReports™** users **only.**
	**Export Report**	**Permits** the user to export data into ***Microsoft Excel***.
	**E-mail Option**	**Opens *Microsoft Outlook*** to enable distributions of files via e-mail.
	**Help**	**Opens** Help: **TRAMReports™** Operational guide

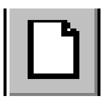
Operate TRAMReports™

In order for TRAMReports™ to be fully operational, the data source(s) must be associated and mapped to the appropriate location. If a qualified DSN does not already exist on the client machine, the data source will need to be mapped on that client machine. Instructions to create and map a data source path may be referenced under TRAMReports™ Administration within this guide. (Option: See your System Administrator and/or *ORACLE* DBA for assistance in configuration.)

TRAMReports™ is a read only program. TRAMReports™ does not allow the user to enter or modify any database structure or data definitions.

The TRAMReports™ standard version 1.5 allows the users to access all data elements within a qualified data source. TRAMReports™ may also be configured to work with other data sources that are ODBC compliant.

Generate TRAMReports™

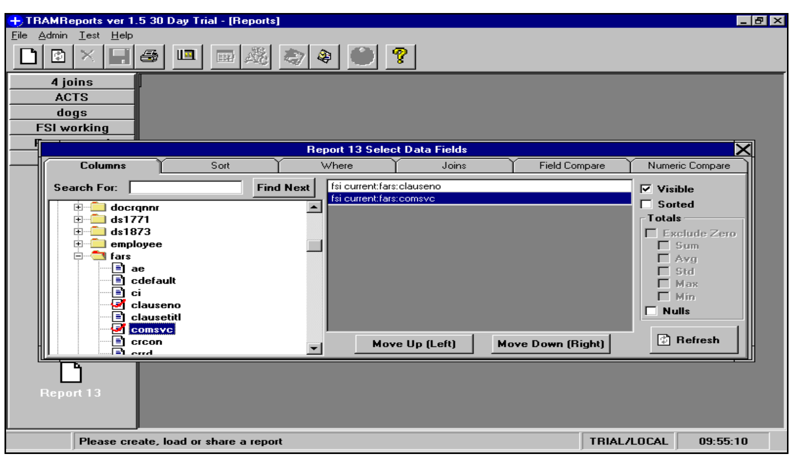


Create New Report

The TRAMReports™ program enables the user to create "real time" or near real time (based on the required environment) data extraction by selecting the New Report icon. When reports are initially created, they are displayed in the "Temp" Report Group.

To create a new report, click on the New Report Icon located on the main screen tool bar.

By selecting the new report icon, the Report Designer Module will display automatically and will permit the user to determine data outputs. (See instructions on how to create a new report in the Report Designer Module Section.)



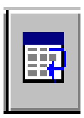
Note: The data sources, tables and data elements available to the users for report generation will be displayed on the left side under the Column tab within the **Report Designer** module.

Report Designer Module:

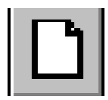
The **Report Designer Module** permits the user to select from the **Column Tab, Sort Tab, Where Tab, Joins Tab, Field Compare Tab and the Numeric Compare Tab.** It provides the user the following capabilities:

- Data Extraction
- Filter
- Perform Calculations
- Compare Fields
- Simulate Relations
- Create, Modify, Reuse Reports
- Sort
- Compare Values
- Evaluate Data Outputs
- Analyze Values

➢ These same options are available when the **new report icon** has been selected or if a previously created report icon has been right clicked the **report designer icon** will be activated to modify the existing report.



Report Designer Icon



New Report Icon

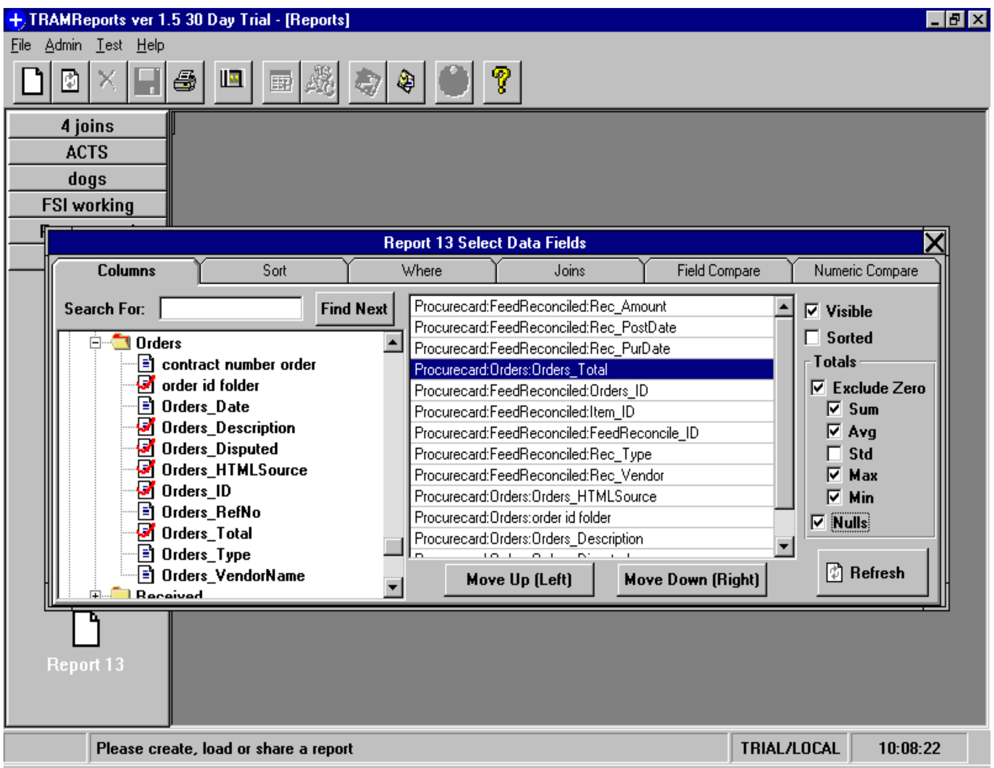
Instructions for operating the Report Designer Module: (OR New Report Icon)

Column Tab Instructions:

The **Column Tab** allows you to decide what data elements/fields will be retrieved from what data source in order to generate a data extraction.

Column Tab's Capabilities:

- Identify, select, and/or deselect, the data elements available from each DSN for each data output designed. The Columns grid will display the fields selected.
- You can determine the sequence of the data elements within the report designed by clicking the table columns in the preferred order sequence.

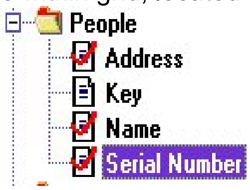


Levels within the Column Tab:

- The first level displays the available data source names. (*The number of data sources will depend on the number of DSNs that have been created and/or are qualified.*
- The second level displays the tables that are available in the selected DSN.
- The third level displays the data elements that are available within a table of the selected DSN.

Column's Tab Instructions Continued:

1. **Click** on any **unselected field(s),** located on the left hand side, to **select** and **display** the chosen items within grid, located on the right side, of the Column's tab screen.



2. **Click** on a **selected data field**, to **de-select** that data element from the grid.

3. **Click** the **Move Up (Left)** or **Move Down (Right)** buttons to design the sequence of the fields that will be displayed in the report generated.

4. **Click** on a data element **within the grid,** on the right side of the column tab's screen, then you can select any of the following options:

   - *Select* **Visible** to **display,** or **deselect** to **not to display** (**make invisible**), an item in the report being generated.

   - *Select* **Sorted** to have the data element as part of a sort or, deselect sort request for any data element not to be included in the sort functions. (See **Sort tab** to determine the creation of ascending/descending order of the data elements.)

   - *Select* a **Numeric** data element field to perform sums, and calculations**.**

   - **Sums and calculations will not be displayed in the first column of any report.**

Column's Tab Instructions Continued:

Visible:

- **Click** in the **"visible"** box to display the chosen data element in the report. *(Retrieves and Expands reports to accommodate all retrieved data items.)*

- **Deselect** the **"visible"** box to make data items **invisible,** from the report display. *(Decreases the report width and provides the user with the capability to filter items that are not visible and to retrieve only the data elements that the user wants to view within the report.)*

Note: If the first row is made invisible you will not see the text that describes the text that describes the computation selected.

Sorted:

- **Click** on the **sorted** box to add a data element to the sorting grid within the Report Designer's **Column's tab.**

- **Deselect** the **sorted** box within the **Report Designer's Column tab** to remove that data element from within the **Report Designer's Sort tab.**

- See **Sort Tab's** instructions to create ascending/descending orders.

Note: You may double click a column header to see a virtual change in the data extraction to view the ascending/descending orders. To create and save these modifications see the **Sort tab** instructions.

Calculations (Sums, Avg, Std, Max, Min):

Numeric options will only be highlighted and available to the end-user when the **numeric field** has been selected in the right side of the Report Designer's column tab that contains a **numeric field value.** *(Sum, Avg, Std, Max, Min or Exclude Zero.)*

Note: To operate the **Sort tab**, the **Sorted box** must be checked from the Columns tab. (See previous instructions under columns tab titled **"Sorted ".**)

Numeric Calculations must not be totaled in the first column.

Column's Tab Instructions Continued:

Numeric Field options:

The following list briefly explains the functionality of each field available under the **Numeric Compare options:** (All totals selected will be provided at the bottom of the generated report.)

- **Exclude Zero:** Excludes numeric values that default to 0, or any values that equal zero, from statistical calculations. ("Exclude Zero*" with a star will appear when this calculation has been requested, it **will not** prevent the record line items that have a zero value from being displayed in the report generated.)
- **Sum:** Provides a sum of the total numeric items selected.
- **Avg:** Adds up all of the items and submits an average, of the total numeric items selected.
- **Std:** Gives the standard deviation of the numeric items selected.
- **Max:** Lists the highest numeric value of the numeric items selected.
- **Min:** Lists the lowest numeric value of the numeric items selected.

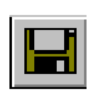
  Note: These above options are only available, when the selected field is numeric.
- **Nulls:** Sums up the total number of **blank fields** in each column that has been selected.

  Note: The numbers of blank fields are summed up for each selected data elements for numeric and text fields.

Option: Prior to executing the refresh button, consider using the where tab to drill down on specific items to decrease data retrieval run time.

5. Use the **Refresh button** to retrieve the data for currently selected fields from the data source(s) and to display the new report generated.

6. Once the data is retrieved, you can **change the column position** in the report by right-clicking the header and dragging it to the desired position. (**Note:** Moving columns by right clicking will not be saved in the report. You must change the positions of the columns within the report designer under the column tab and selecting the position of the item by clicking the **move up** and **move down** buttons.)

7. Save report generated by selecting the Save icon: 

   - For more specific instructions for saving reports see **Save** instructions.

8. Modifications can be made to an existing report icon without refreshing the data from a report icon template by right clicking the report-generated icon. This activates the **report designer module** and modifications for that report can be made directly.

Column's Tab Instructions Continued:

Search for Data Source Names, Table or Data Elements:

If you are generating and comparing numerous data sources or have a data source that is large in size, **TRAMReports™** has a **Search For:** option.

1. **Enter** the data source name: (i.e. ProcureCard)
2. **Enter** table name:(i.e. Orders)
3. **Enter** field name: (i.e. Orders Total)

Sort Tab Instructions:

The Sort Tab permits the user to select the sort order of the data being retrieved.

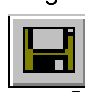
The sort radio button within the Column's tab musts be selected with a check mark for each specific data field.

1. **Click** the **ascending** and **descending** radio dial buttons to determine how the data will be displayed in a requested report.

2. You can use the **move up** and **move down** buttons to determine the sequence of your sort order.

3. Use the **Refresh button** to retrieve the data for currently selected fields from the data source(s) and to display the new report generated.

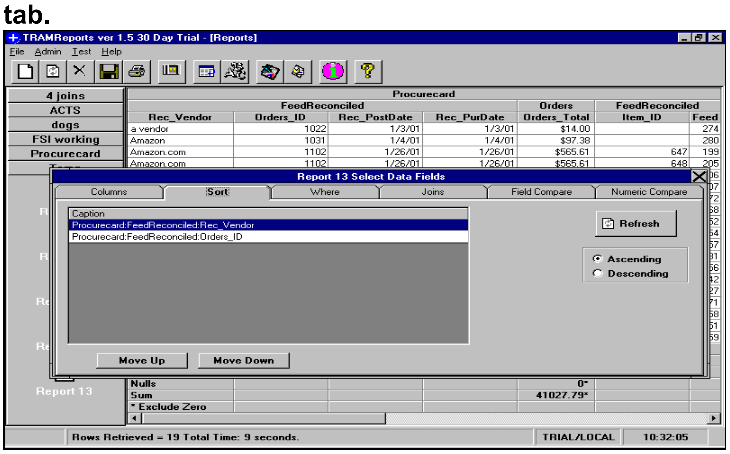
    - A preferred way to sort is to click on the column header in a previously generated report or sorts can be created in subgroups by clicking on the **ABC Icon**.

4. Save report generated by selecting the Save icon: 

   For more specific instructions for saving reports see **Save** instructions.

Important:

To successfully execute the **Sort** option, you must follow the instructions listed in the **Columns tab** under the title **"sorted."** To **deselect sort requests,** see instructions under the **Columns tab.**

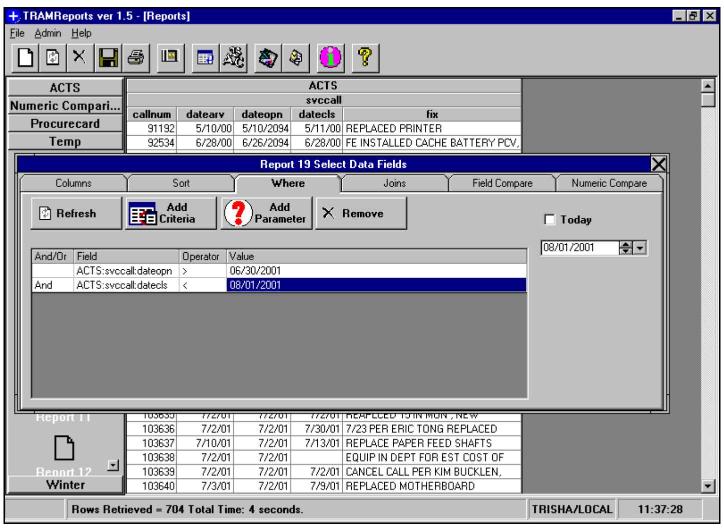


Where Tab Instructions:

The **Where tab** is used to restrict the number of records retrieved from multiple tables by creating where clauses. The **where clause** is updated when the data elements being retrieved need to meet certain criteria. This will also decrease the data retrieval time, when the criteria needed is defined in the **where clause** prior to execution.

Column Tab's Capabilities:

- **Select** specific criteria of information within the report to be displayed.
- **Add Criteria** (drill down/filter) available data source information to create more specific reports.
- Retrieve reports with Boolean logic.(and/or)



(Example of Where Tab)

Add Criteria in the Where Tab Instructions:

1. Use the **Add Criteria button** to add additional **filter** criteria. A row will be added to the grid and the user will need to insert specific filter commands.

2. Click on the **Field**, **Operator**, **Value And/OR** drop down selections within each row of the grid to create report criteria (filters), as follows:

    - **Field**: Lists the specific data elements previously selected in the **column tab.**

    - **Operator:** Provides a list to determine what condition the record items will be pulled and displayed in the report.

        - Operators included are as follows:
        - = (Equal to)
        - < (Less than)
        - > (Greater than)
        - >= (Greater than or equal to)
        - Not in Report
        - In Report
        - Contains
        - Does not contain
        - Starts with
        - Does not start with
        - Ends with
        - Does not end with

Note: Each field uses a specific type of data that restricts the data that the filter accepts. For Example, if a field uses a date data type, you can only use the **date dropdown** list or the **Today box** to perform this specific filter criterion.

Add Criteria in the Where Tab Instructions Continued:

- **Value**: Is information that must be defined and entered by the end-user, to complete the selection criteria.

Example of a where clause with value added criteria:

And/Or	Field	Operator	Value
(Blank with first entry)	Equip.location	Contains	Dallas

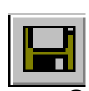
- **IMPORTANT:** DATA ENTERED IS **case** SENSITIVE. The information being retrieved from the data source will mirror the data how it appears in the database and will capture what was actually entered and how it was entered within the data source(s).
- This may bring to light data management or operational anomalies.

3. **Highlight** row item and click the **Remove button** to delete **Added criteria**.

Notes:

- The **And/Or** in the list box is not available, when there is only one row of **Add criteria** selected.
- Editing previously entered added criteria field will delete any data values entered in cells to the right of the edited field.

4. Use the **Refresh button** to retrieve the data for currently selected fields from the data source(s) and to display the new report generated.

5. Save report generated by selecting the Save icon: 

   For more specific instructions for saving reports see **Save** instructions.

- Changes can be made to a report without refreshing the data from a report template by right clicking the report-generated icon. This activates the **report designer module** and modifications for that report can be made directly.

Add Criteria in the Where Tab Instructions Continued:

Hot key for Parameters: (Additional Add Criteria Options)

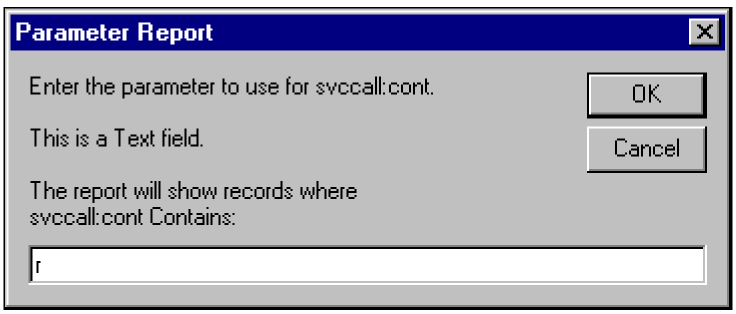
1. **Click** the **Add Parameter button** to add a row to the grid and insert a specific filter command, for selection criteria.

2. **Click** on **Field**, **Operator**, **Value And/OR** drop down selections within each row of the grid to create report criteria (filters).

    - **Field**: Lists the specific data elements previously selected in the **column tab.** (**ex:** svccall: cont)

    - **Operator:** Provides a list to determine what record items will be pulled. (**ex:** contains)

    - **Select**: Refresh button.



    - **Value**: Is manually entered by the user.

    - **Example:** svccall:cont contains **r. (Date parameters must be manually entered. (e.g. 08/01/02)**

    - **Value** will be requested and can be modified each time a report is refreshed.

Reports with parameters are useful because they can be filtered on the fly and do not need to be recreated.

Compare Reports from the Where Tab:

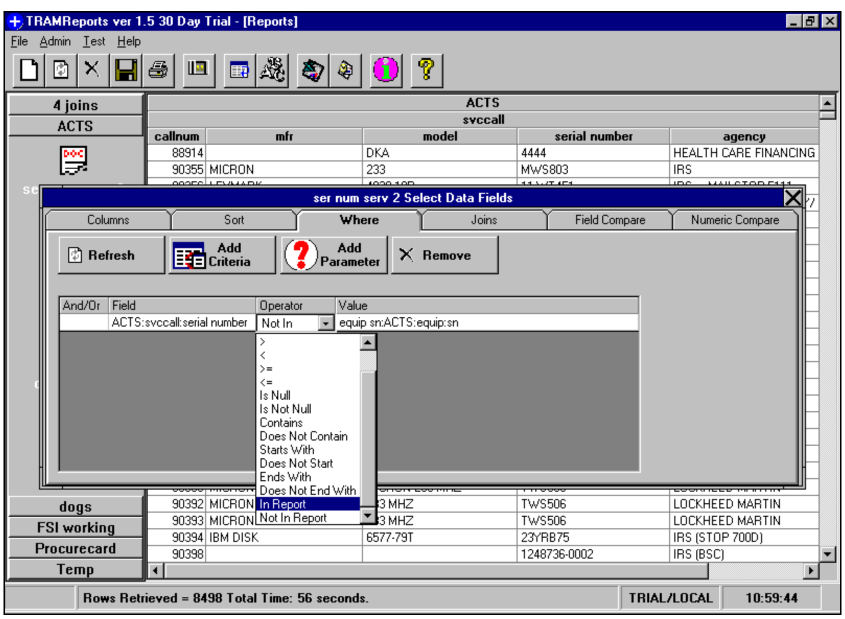
Compare Reports is a feature that permits comparisons of items from one data output to items within another data output.

For example, the user may want to see how many service calls were generated for time and material only vs. service calls generated for equipment that was covered under contract.

The user can report on contract-covered items and retrieve another report on service calls generated under that contract. It is then possible for a user to compare the two reports to determine the percentage of service calls were made for time and material, in contrast to how many calls were covered under that contract agreement.

Compare Reports:

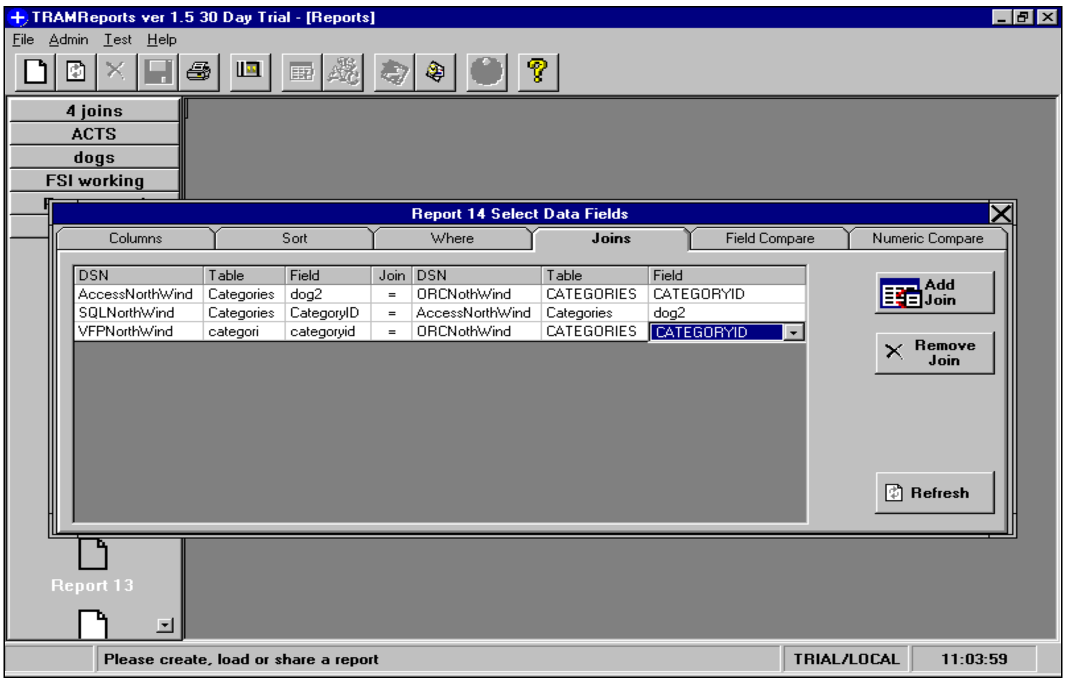
1. Retrieve one report from one table.
2. Generate another report from a second table.
3. Identify the selected data elements from each report to generate a report on the different report's values.
4. Use the Where tab to enter the criteria and select the operator as "In Report" or "Not In Report".



Join Tab Instructions:

The joins tab is used to retrieve rows from two or more tables or data source(s), to simulate relationships that are not explicitly carried in the data definitions of the targeted database(s). **For each join created, it must satisfy an established join condition by having at least one common thread between the multiple tables that are being selected.** (**Example:** Access data source needs to be combined with a *MS SQL, VFP* and *ORACLE* data source.) The Joins tab will allow you to establish the relationships, if the data types are the same and there is an associated relation regardless of the generic table or field names.

1. To create a join click on the **Add Join** button on the right side of the join screen and a row will be added in the grid.



2. Click the 1st **DSN** cell. *(If only one DSN has been selected, the name of the DSN will automatically default in the DSN cell.)*

Note: If a DSN contains no explicit relationships (as in many FoxPro databases) the Joins Tab must be used to tell TRAMReports how the selected tables are related.

Caution: Submitting a query without the requested information may produce data that is not relational. If executed, the resulting data extraction may deplete system resources.

Join Tab Instructions Continued:

3. **Select** the DSN to be populated within the grid.

4. **Select** a table from the previously selected DSN.

5. **Select** the data field from the previously selected table.

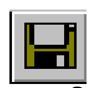
6. Choose the **value/operator (=)** to be populated in **join** cell to create the relation.

7. The selections of the next **DSN**, **table** and **field** columns are repeated on the right side of the previously entered join. **(See steps 2-6)**

8. To **remove** a **Join**, the line item must be selected prior to clicking on the **Remove Join** button.

9. Any edits made to data entry for Joins will require the user to re-enter values to prevent data entry errors. (“**Value Required’**)

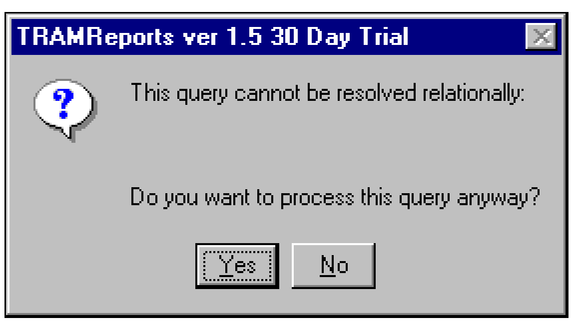
10. Press the **Refresh** button to refresh and display the data output.

11. Save report generated by selecting the Save icon: 

    For more specific instructions for saving reports see **Save** instructions.

- Changes can be made to a report without refreshing the data from a report template by right clicking the report-generated icon. This activates the report designer module and modifications for that report can be made directly.

Important: When data elements are selected from more than one table or databases and the relationship is not included in the databases or simulated by **TRAMReports™**, the following message will appear:



- In almost every case, the user will need to select No.

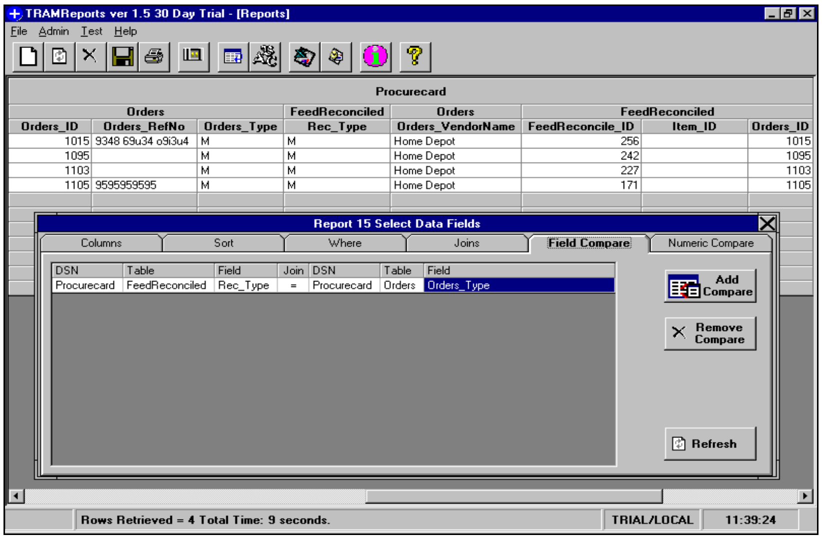
- This message is a **warning** to the end-user that the relationship has not been defined and the **TRAMReports™** will retrieve all possible combinations of the fields selected.

- This query could potentially tap out the user’s resources and require a reboot!

Field Comparison Tab Instructions:

The **Field Comparison Tab** is utilized to restrict output by performing SQL comparison at the field level in two or more fields. For example, you can add a field compare and see where *text* data items are the same, different or equal in two tables or data source(s).

1. To create a field comparison, click the **Add Compare** button on the right side of the **Field Compare** screen and a row will be added in the grid.

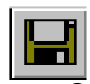


2. **Click** the **DSN** in the grid.
3. **Select** the DSN to be populated within the grid.
4. **Select** the **table** from the **previously selected DSN.**
5. **Select** the **field** from the **previously selected table.**
6. Choose the **value/operator** to be populated in **join** cell to perform the comparison. **(=, <> not equal to, >, etc…)**

Field Comparison Tab Instructions Continued:

7. To Remove the **Field Compare**, the line item must be selected prior to clicking on the **Remove Compare** button.

8. **Press** the **refresh** button to refresh and display the data output.

9. Save report generated by selecting the Save icon: 

   For more specific instructions for saving reports see **Save** instructions.

- Changes can be made to a report without refreshing the data from a report template by right clicking the report-generated icon. This activates the **report designer module** and modifications for that report can be made directly.

The following operators are available within the "Join" column of the Field Compare Feature: (And the Numeric Compare Feature.)

<> Values in the compared fields that are not identical.

> Value of the left field is greater than the value of the right field.

< Value of the left field is less than the value of the right field.

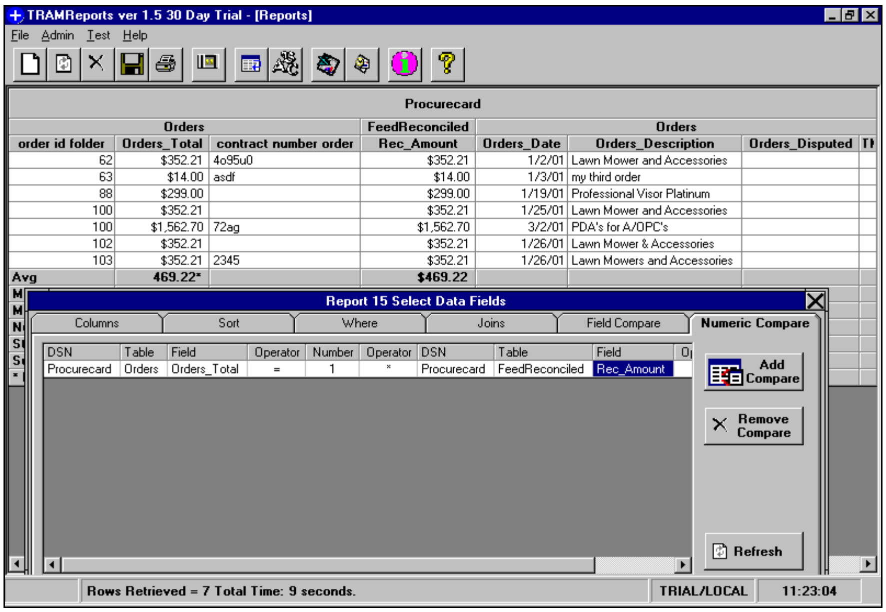
>= Value of the left field is greater than or equal to the right field.

<= Value of the left field is less than or equal to the right field.

Instructions for utilizing the Numeric Comparison Tab:

The **Numeric Comparison Tab** is an extension of the **Field Comparison tab.** The Numeric Comparison Tab will restrict output at the field level but limits selections to the fields containing **numeric data.**

1. To create a Numeric Comparison, click the **Add Compare** button on the right side of the join screen and a row will be added in the grid.



DSN	Table	Field	Operator	Number	Operator	DSN	Table	Field	Operator	Num
ProcureCard	Orders	Orders_Total	=	1	x	ProcureCard	Feed Reconciled	Rec_Amount	*	0

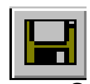
10. **Click** the **DSN** in the grid.
11. **Select** the **DSN** to be populated within the grid.
12. **Select** the **table** from the previously selected DSN.
13. **Select** the **data** field from the previously selected table.
14. **Select** an **operator (e.g.=, <>,>,<,<=)**
15. **Enter** a numeric value.
16. **Select** second Operator (*, +, -)

Instructions for utilizing the Numeric Comparison Tab Continued:

17. Selection of the next DSN, table and field columns is repeated on the right hand side of the previously entered **numeric compare**.

18. To Remove the **Numeric Compare**, the line item must be selected prior to clicking on the **Remove Compare** button.

19. Press the **refresh** button to refresh and display the data output.

20. Save report generated by selecting the Save icon: 

    For more specific instructions for saving reports see **Save** instructions.

- Changes can be made to a report without refreshing the data from a report template by right clicking the report-generated icon. This activates the **report designer module** and modifications for that report can be made directly.

Distinct Record Retrieval:

All data outputs retrieved using **TRAMReports™** will be **DISTINCT** records unless a memo field has been selected.

Distinct record retrieval only returns data in which each returned row is distinctly different from every other record. For example, If a table contained 50,000 Mike's and 100,000 Joe's, **TRAMReports™** would retrieve only 2 records, one for Mike and one for Joe.

If you want to determine how many different Mikes' or Joes' were in the table, a primary key would need to be selected which is associated with each Mike and Joe. This would allow **TRAMReports™** to retrieve all distinct record items without retrieving duplicate records within the data extraction.

The user may create a many to many relational query within **TRAMReports™.** If the fields selected are related by an artificial null or contains empty values a record will be retrieved for each combination of all fields. (**Caution:** This type of query requests could max out the user's available resources.)

Benefits of Distinct Record Retrieval:

- Provides a safeguard against returning huge record sets and/or a many to many query.
- Disallows a return on duplicate line items.
- Allows the user to compare data outputs against the anticipated results vs. every possible record.
- Provides a DBA (Database Administrator) with the means to determine if a primary key or other critical data has not been provided.

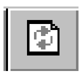
Note: If any selected field is a memo field the distinct functionality will not be active and duplicative record line items will be retrieved and displayed.

TRAMReports™ Options

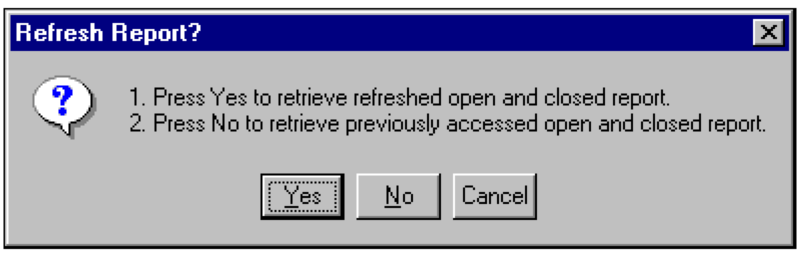
This section outlines* TRAMReports™ *Options these include:

- Refresh Reports
- Delete Reports
- Save Reports
- Print Reports
- Modify View
- Add Header/Footer/Subtotals
- Create Alerts
- Convert to *MS Excel*
- Use *MS Outlook*
- Help

Refresh Reports:



This option retrieves and refreshes reports to extract current data captured directly from the associated data source(s). Each time the user selects the refresh button the following prompt will appear:



If the user selects Yes the data is received will be updated according to any modifications made within the report designer or any data updates from within data source(s) being accessed.

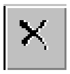
If the user selects No the data retrieved will be the previously created report. (This option will allow the user to compare data outputs in near real time to historical data outputs.)

Preview SQL Statements:

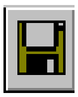
The user has the option to view the SQL Statements being generated for selected reports.

1. **Select** Admin from the **TRAMReports™** menu bar.
2. **Select** Preview SQL
   - A check mark must be present beside Preview SQL for this feature to be active.
3. **Select** report to be refreshed.
4. **View** SQL statement outputs.
   - To turn off the Preview SQL feature, remove the check mark next to Preview SQL under Admin.

Delete Reports:



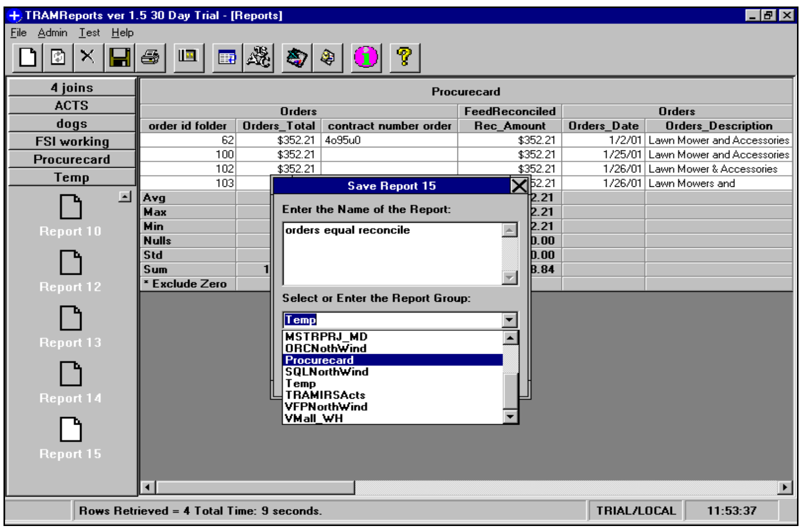
- This option deletes any selected reports.
- When the report is in not saved under **Temp**, you must right click to activate the delete option.



Save/Copy/Move a Report

Save Icon

1. Once a report has been retrieved, **click** on the **save icon**. The following screen will appear:



2. Enter the **Name of the Report** and the **Report Group** in the **Save format** window.

3. You can **Rename/Move** the report to a DSN category from the **temp** location by using the drop down under **Select or Enter the Report Group**.

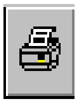
4. **Create** your own category to manage data outputs from multiple DSNs or file under the directly associated DSN.

   - Any report created under temp will always be saved unless the user removes the reports from the **temp** category.

5. You can easily use a saved report as a template, to generate different reports by selecting the **copy** option and then modifying the criteria to get a different output. (**Remember:** to change the name of the report to match the anticipated results.)

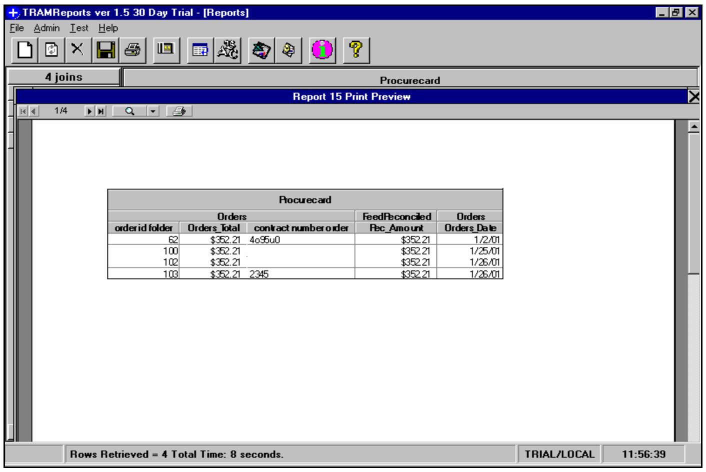
Important: All TRAMReports™ generated will be saved on the client machine unless the data is migrated into *Microsoft Office* and saved on a network location.

Print a Report:



Print Icon

1. Click the **printer icon** to view the Print Preview screen.



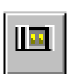
2. Click the **Printer icon** on the **Print Preview window** to print the report.

Note: It is recommended to export data outputs into *Microsoft Office* for formatting, creating graphs/charts or printing.

Viewing .dat TRAM Files:

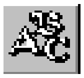
The Print to File (.DAT) Menu Option allows users to save the extracted data to a file with a .DAT extension. The File Open menu option can be used to view/import .DAT files.

Hide Reports:



Expand the report view by clicking on the **hide reports bar icon.** The reports generated will no longer be displayed. Click the hide **reports bar icon** again and the available reports will be displayed.

Create Headers / Footers /Subtotals:

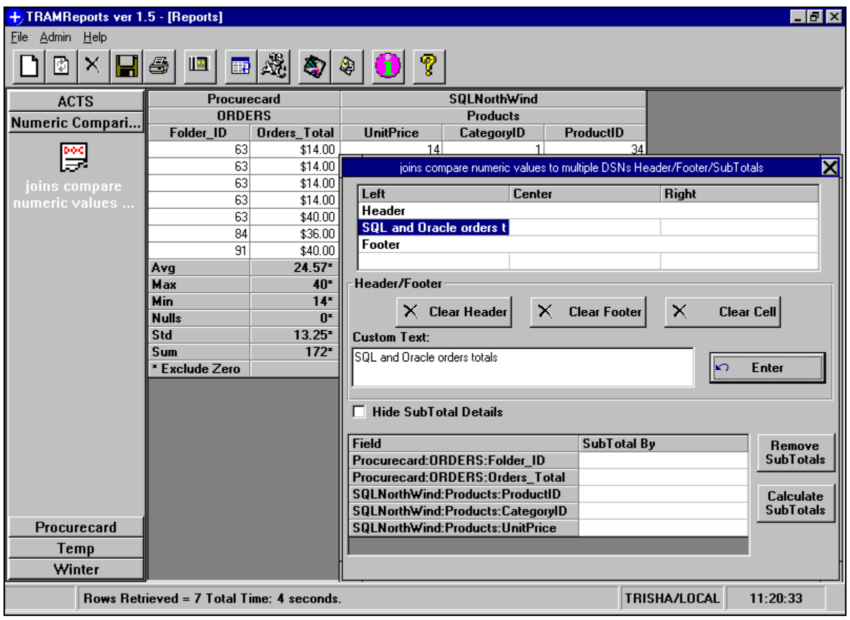


Headers/Footers/Subtotals Icon (“ABC icon”)

- Headers
- Footers
- Subtotals

Create Headers/Footers:

1. **Click** the **ABC Icon** to create headers and footers on reports and following prompt will appear:

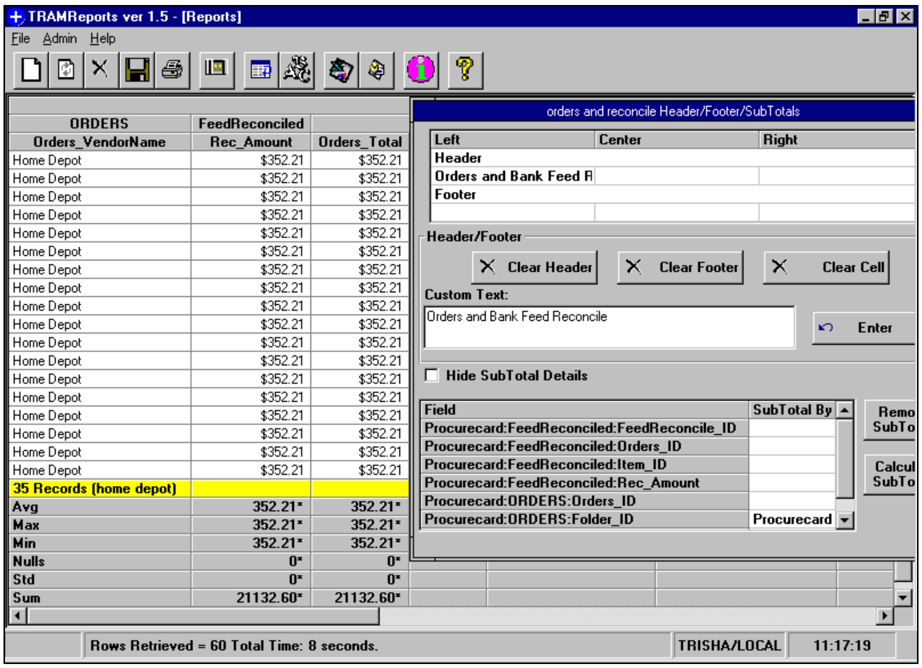


2. **Select** the desired cell listed under **Header** or **Footer**. (Left, Center, Right)
3. **Click** the **Enter button**.
4. **Enter** the desired text in the **Custom Text** field.
5. **Click** the **printer icon** to view the Header or Footer updates.
6. **Clear** data entered in Header or Footer text by clicking on the **ABC Icon**
7. **Click** the **Clear Header** or **Clear Footer** where appropriate to remove items entered.

Create Subtotals:

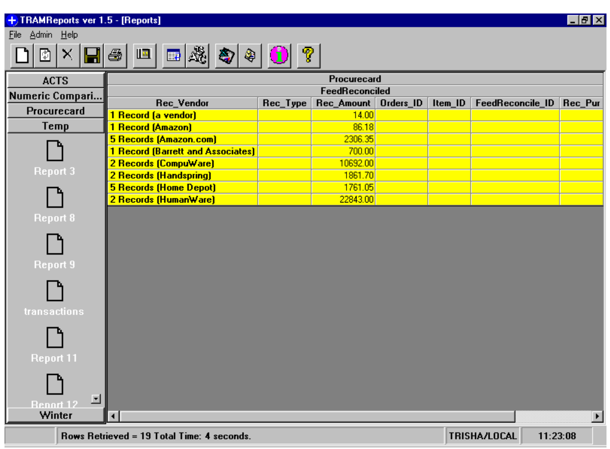
You may create subtotals for groups by selecting numeric column value. Generate sub-totals of quantitative data field values including total of number per group.

1. Select the drop down bar **"Subtotal by"** next to the defaulted **"Field"** desired listed under the **Custom text box**.



2. Process subtotal selections and to exit this screen, the user may click the **Calculate Subtotals** button.

Note: The user has the option to suppress subtotals by clicking the Hide subtotals box within the **ABC** screen.



3. To remove subtotal requests entered, click the **ABC Icon** click the **Remove Subtotals** button.

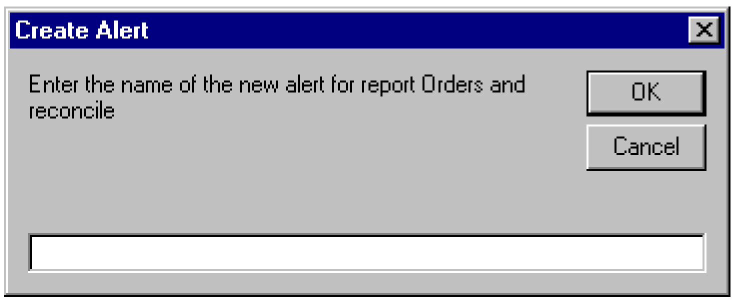
Alerts

The alert feature permits the user to send an automated report notice to any specified recipient(s), as a .txt file or a .dat file format. Alerts are sent at the user's discretion.

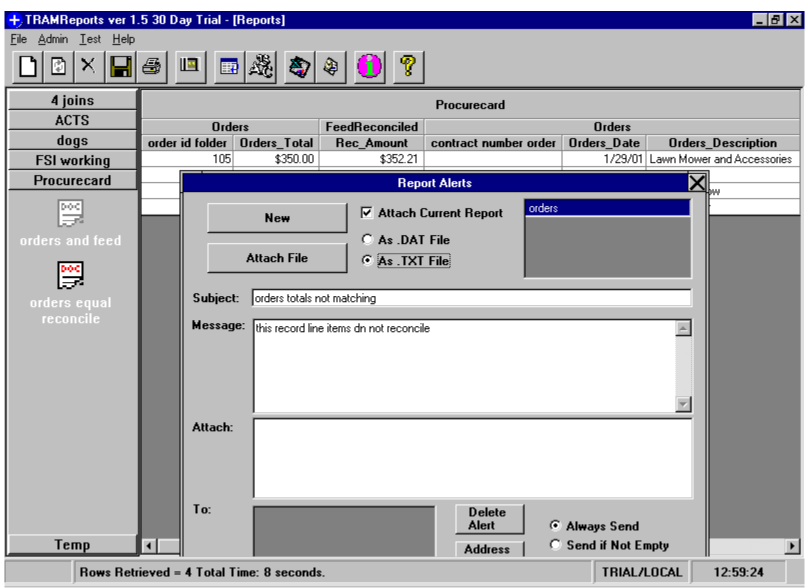
- .dat file formats may be opened by other TRAM users only.

Instructions on creating alerts:

1. **Generate** the desired report for the anticipated recipient(s).
2. **Select** the **alert** icon.
3. **Click** the **New** button.
4. The following prompt will appear:



5. In order to continue, the name of the report must be entered.



Instructions on creating alerts Continued:

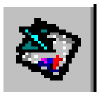
6. The following options will be **active** and available for customization:

   The user may process any of the following:

   - **Provide** multiple attachments
   - **Select** file format (**.DAT** or **.TXT**)
   - **Enter** subject
   - **Provide** detail text message
   - Location of Attachment will be displayed in the **Attach** window
   - **Select** Address Book to select recipients from the *Outlook* mailbox.
   - **Delete Alert** to remove any previously created Alerts
   - **Always Send** regardless of the amount of data retrieved.
   - **Send if Not Empty** only if the filtering criteria specified returns new record items.

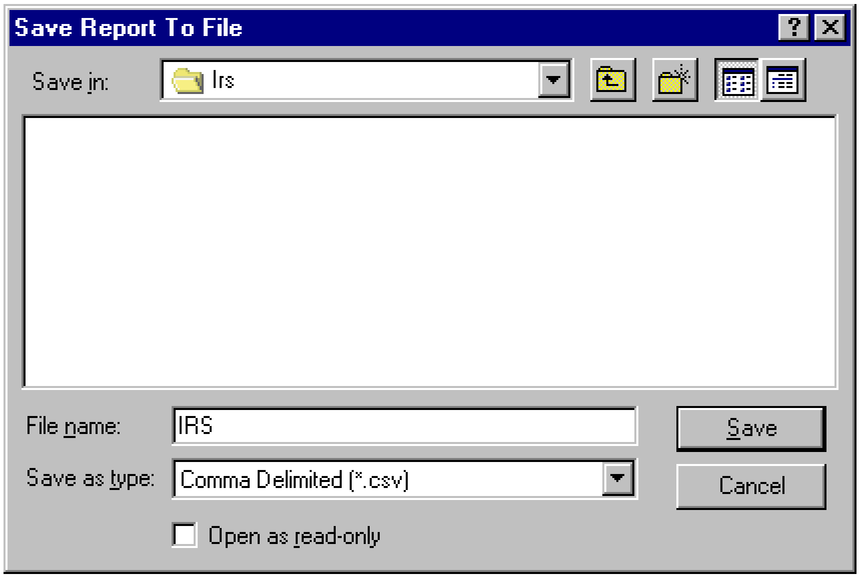
7. After the **Report Alerts Box** has been completed, click the **X** to close the window.
8. In order to send the alert, the report must be refreshed for **TRAMReports™** to activate and send the alert(s) created.
9. To confirm that the alert was processed, the user can check the sent items within *Outlook.*

Export a report to an *Excel*, .CSV, .TXT format



Excel (spreadsheet) Icon

1. Select the ***Excel* button** next to the **ABC Icon** to export reports into a spreadsheet format, after data has been retrieved. The following prompt will appear:



2. **Select** the desired location to save the report by using the drop down for **Save in:**. (i.e. C drive, D drive, network location)

3. **Name** the report by entering the **File name:**.

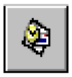
4. **Select** the type of file format to be exported by using the drop down **Save as type:**. **(.csv or .txt**)

   - The user may change the format of a .csv file to an *Excel* spreadsheet by changing the extension to .xls.

5. **Select** the save button to complete file data extraction.

6. **Open** *Windows Explorer* and locate save file.

E-mail Option:



Your can send reports to other individuals that may or may not have **TRAMReports™** via e-mail.

1. **Select** format to send file. (.txt or .dat)
2. **Enter** subject.
3. **Type** in message.
4. **Select** Send
5. **Save** file to be sent in desired location and format.
6. *Outlook* prompt will appear to send from Address book.

- .dat file formats may be opened by other TRAM users only.

Help: (F1)

- Accesses the **TRAMReports™** help information.

Other Displayed Report Options:

- **Left-click** on any column header to perform a **sort** by that column. Sorts are toggled between ascending/descending orders. *(This is a virtual change only.)*
- **Right-click** a column header and slide the column header horizontally, to a new location and drop the column header on the grid. *(This is a virtual change only.)*
- **Double click header** column to view ascending or descending orders. *(This is a virtual change only.)*
- You may not adjust the row's width size of the reports retrieved from the **database** within **TRAMReports™**. However the user may, export generated **TRAMReports™ reports** into an *Excel* spreadsheet.

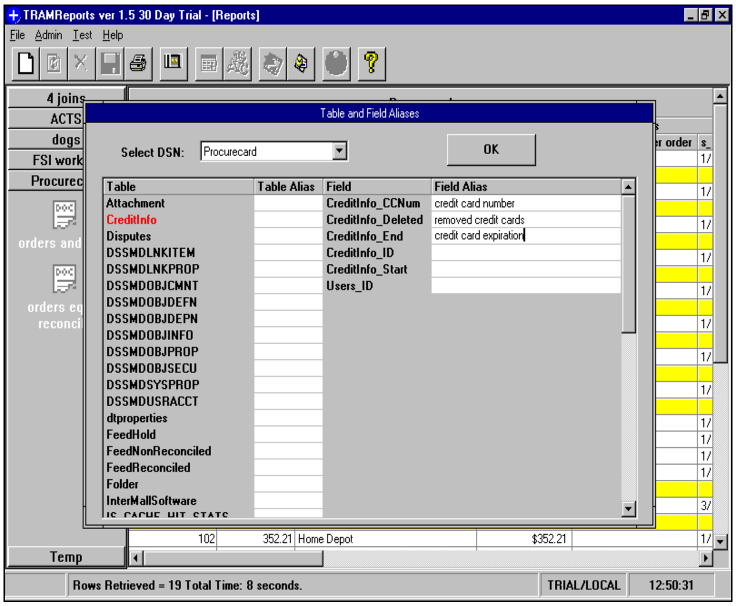
Note: When reports are retrieved the icon on the left will be highlighted to indicate which report is currently displayed.

Create Aliases and Labels:

TRAMReports™ allows you to translate table names and field names to be displayed in the report designer module and within the reports generated including previous reports and data selections from within all tabs.

1. To create Aliases and Labels **access** File and then **click** the Table and Field Aliases option.

The following screen will appear:



- To enter a table name by click on the blank cell and entering the new table name.
- To enter a new label for a data element within a table click on an empty cell and enter a new data field name.
- To accept changes click on OK and the aliases created will be applied automatically and you will exit from the Table and Field alias function.

Add Users:

You can limit user access to **TRAMReports™** by creating **User id(s)** and **Password(s)**.

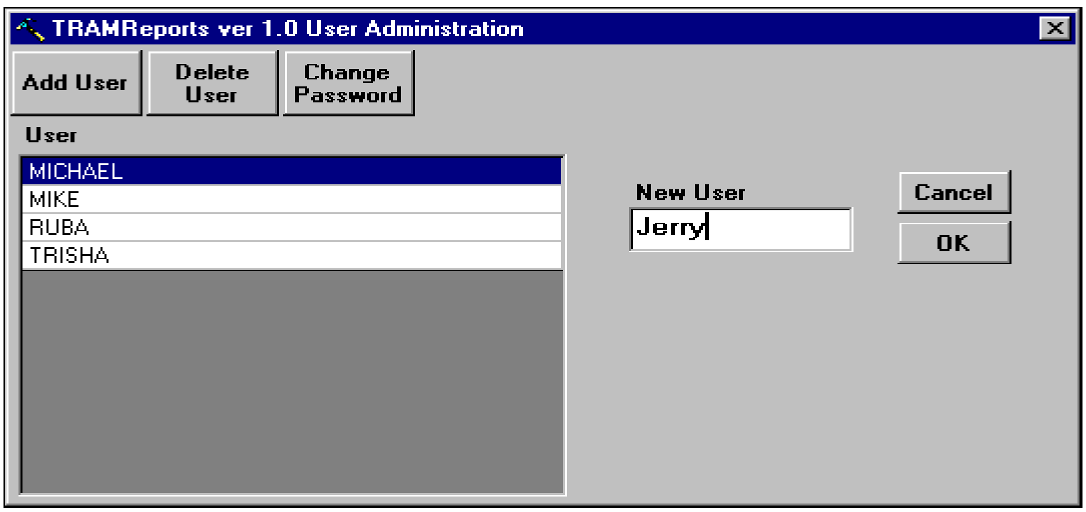
IMPORTANT: Once a **User id** and **Password** combination has been created, the only way to access **TRAMReports™** is by correctly entering the customized **User id(s)** and **Password(s).**

It is recommended that the person responsible for managing users profiles, maintain and store all of the **User id(s)** and **Password(s)** information in a secure location for future reference.

It is highly suggested not to add a user until the end-user has become familiar with operating **TRAMReports™**. The access will remain the same as originally created by pressing **Enter** twice, until the end-user decides to change the **User id(s)** and **Password(s)** information.

Instructions to Add Users:

1. Select **Admin** from the main screen and then choose **Users** from the drop down menu; the following screen will appear:



2. **Click** Add User.
3. **Type** in New User.
4. **Click** OK to accept or Cancel to quit.
5. **Type** in that user's New Password.
6. **Click** OK to accept or Cancel to quit.
   - A message will prompt: **"Are you sure you want to add Michael?"**
   - Another message will prompt the user and provide the option to transfer over previously created reports that were created under no **User id** and **Password.**

   Optional: Add users to be recognized on the same client machine with the option to carry over previously created reports. Delete or change existing user's profile information.
7. **Launch TRAMReports™**.
   - Login screen will appear.
8. **Enter** appropriate assigned **User id(s)** and **Password(s)**.

TRAMReports™ Administration

TRAMReports™ must be mapped to the associated data source name, in order to create reports.

Check the **Control Panel**, **click settings** and **click** on the **ODBC settings** to confirm that the pathway is set up in **System DSN.**

Administrator privileges are required in order for **TRAMReports™** to be installed and/or access any data source.

Note: All of the available data will be exposed to the user based on that user's created profile within the ODBC settings.

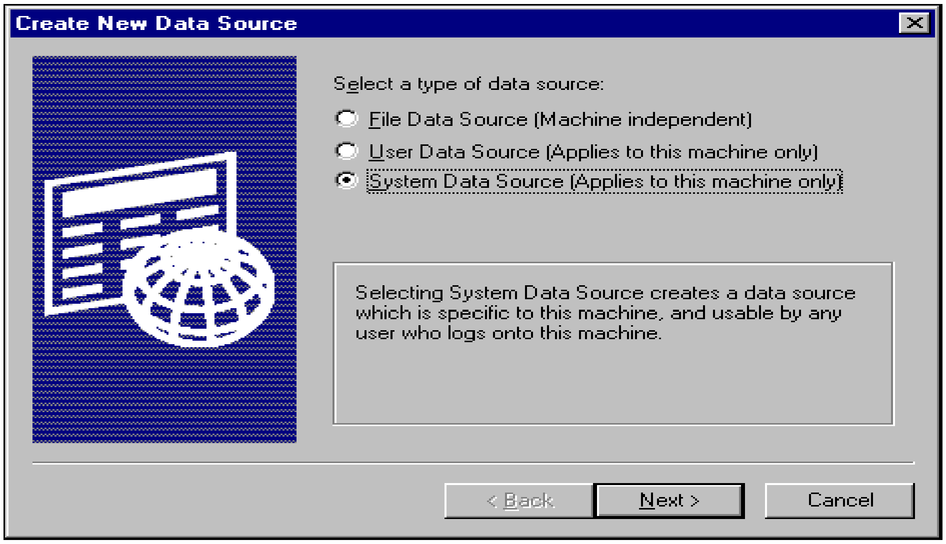
These are the qualified drivers for *Oracle*, *Access*, *MS SQL* and *VFP:*

ID	**Driver**	**Name**
1	MSORCL32.DLL	*Microsoft* ODBC for *Oracle*
2	ODBCJT32.DLL	*Microsoft Access* Driver (*.mdb)
3	SQLSRV32.DLL	*MS SQL* Server
4	VFPODBC.DLL	*Microsoft Visual Fox Pro* Driver

Create MS SQL DSN Pathway:

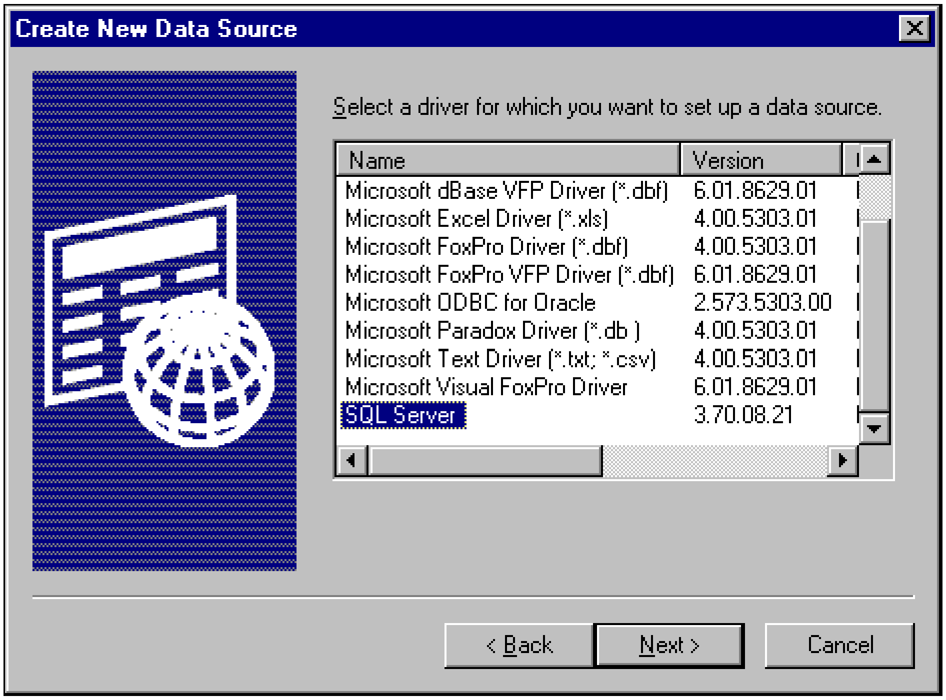
The following instructions list how the end-user creates a new data source in the **TRAMReports™** program for a ***MS SQL*** data source:

1. **Click** File in the menu bar of the **TRAMReports™** program.
2. **Locate** and **click** Create DSN.
3. **Select:** System Data Source.
4. **Click** on the Next button.



Create MS SQL **DSN Pathway Continued:**

5. **Select** and **click** on the database platform. (e.g. *MS SQL, Fox Pro*)

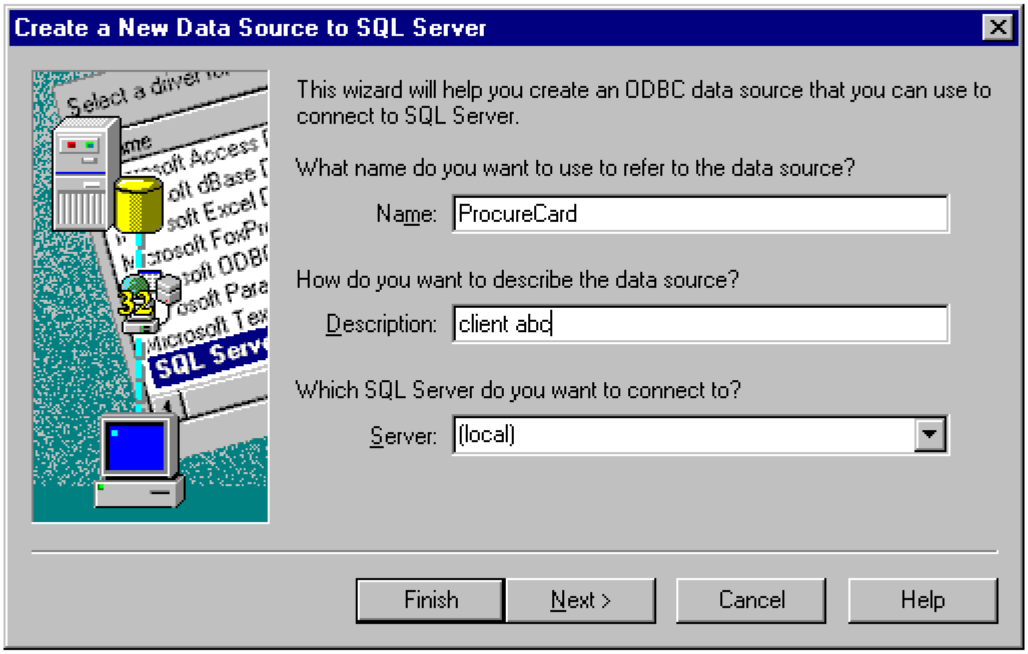


6. **Click** on the next button.

7. The next screen will appear and you can finish or cancel.

***Create MS SQL* DSN Pathway Continued:**

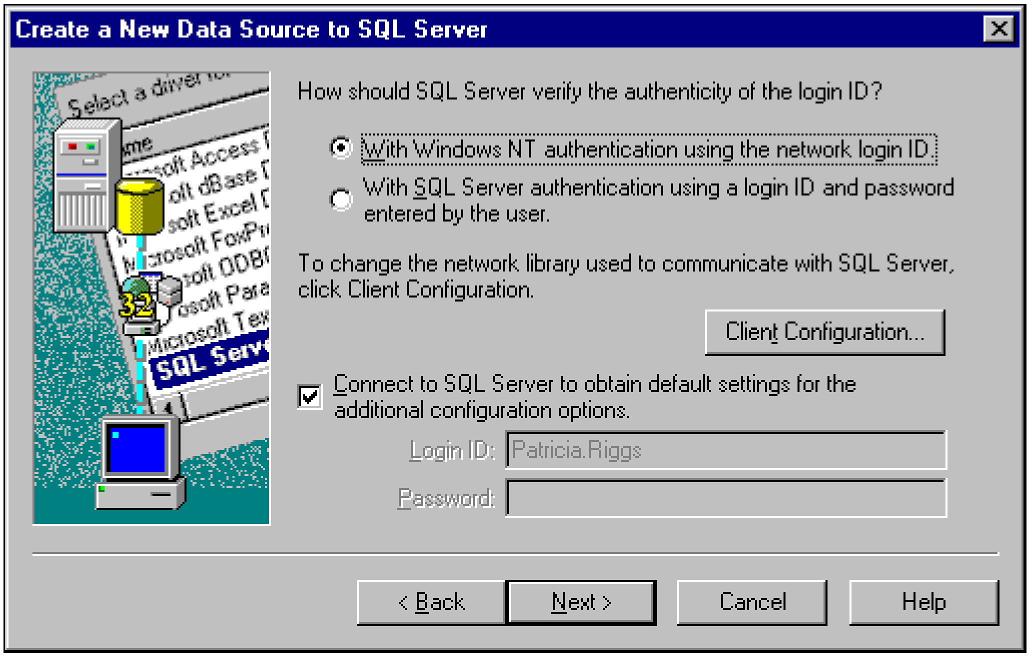
The **Create a New Data Source to the *MS SQL* Server** screen will appear:



8. You can **name** and describe the data source.
9. **Select** the drop down option under "Which SQL Server do you want to connect to?"
10. **Select** server location and **click** the next button.

Create MS SQL DSN Pathway Continued:

11. **Configure** the path to access the data source over the network. (If it is required to have a user id and password to access specific data source information, **TRAMReports™** will not access the data source, unless it has been configured to match the protocol.)



12. **Click** the **Next button** until the finish button is available.
13. **Click** the **finish button** and a screen will prompt the user with the option to test data source or **click ok** and end set up.

Note: If **TRAMReports™** is active, when adding a system DSN, then **TRAMReports™** will need to be closed and restarted, in order to recognize the newly added system DSN.

Create *Oracle* DSN Pathway:

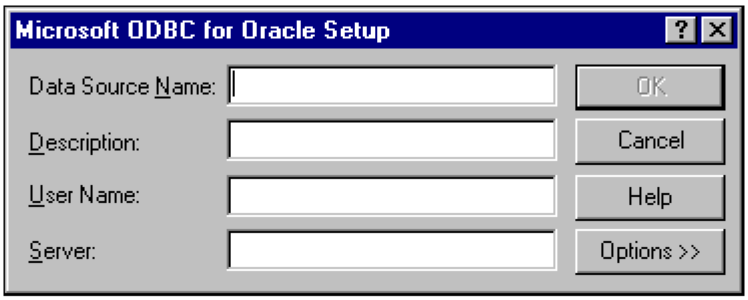
In order for *Oracle* to operate accordance with **TRAMReports™,** the corresponding *Oracle* client software must be installed on the client machine and the *Oracle* Server must be correctly configured.

General Oracle Configuration Requirements:

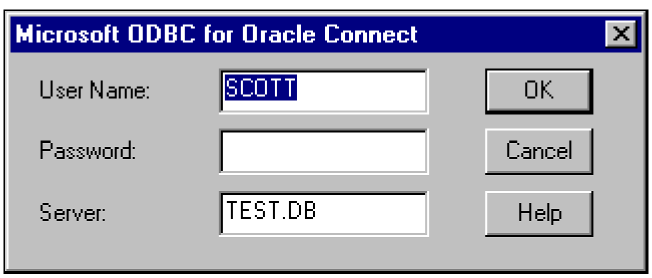
- The DSN should be created directly within the ODBC settings from the control panel.
- The DSN will be recognized only if the user ID, Password and Server name (SID Name) coincide with the appropriate DSN to be accessed.
- Use the qualified driver; *Microsoft* ODBC for *Oracle*

The following screen will prompt after clicking the appropriate driver to map the associated DSN:

(Description is not mandatory but necessary to identify the DSN to being accessed.)



When **TRAMReports™** is initialized the following prompt will appear requesting the User Name, password and associated server name:



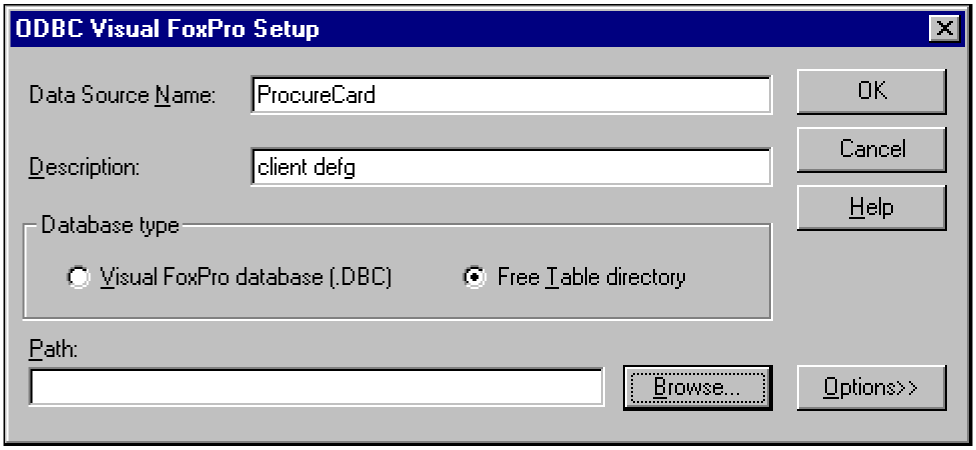
If the user name and/or the server name are entered incorrectly then **TRAMReports™** will not be able to correctly identify the DSN.

Recommended: An *Oracle* DBA should set up proper configuration and pathway to access data any *Oracle* data source.

Create *FoxPro* DSN Pathway:

The following instructions list how the end-user creates a new data source in the **TRAMReports™** program for a **FoxPro** data source:

1. Repeat steps 1-7 for the ***MS SQL*** set up and the following screen will appear:

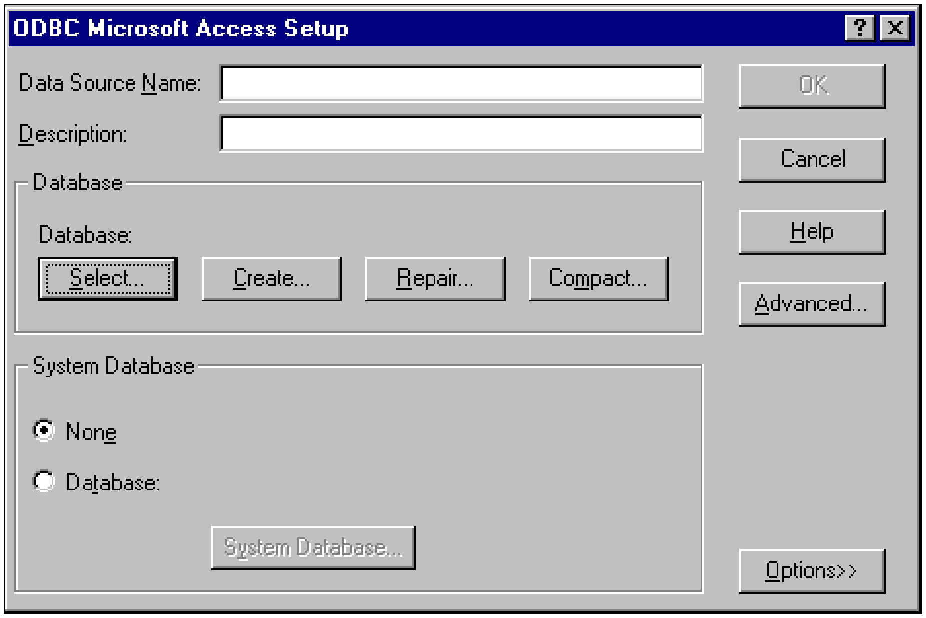


2. **Enter** the data source name.
3. **Enter** the data source description.
4. **Select** database type. (Free Table directory)
5. **Find** the correct path using the browse option.
6. Another screen will pop up to browse the network.
7. **Click OK** and the path will default in the **path area** of the set up screen.
8. To finish the set up **click OK** within the set up screen.
9. Check the **Control Panel**, **click settings** and click on the **ODBC settings** to confirm that the pathway is set up in **System DSN.**

Note(s): TRAMReports™ can process any amount of qualified DSNs. To remove any associated DSNs, following the instructions in #9, select the DSN to be removed and click on the **remove** button.

Create *MS Access* DSN Pathway:

1. Repeat steps 1-7 for the ***MS SQL*** set up and the following screen will appear:



2. **Enter** the data source name.
3. **Enter** the data source description.
4. **Select** the database to mapped.
   - A prompt will appear to allow the user to map the data source.
5. **Select** OK and when complete.

TRAMReports™ Operational Tips

1. Press the refresh button **after** all of the selections, for the report requested, has been made.
2. An hourglass  will appear indicating that your report is being processed.
3. You will not be able to stop a query once you have initiated it.
4. When **TRAMReports™** is not able to locate the data selected based on the criteria provided, you will receive a message: **Query Returned No Records.**
5. If data has not been inputted in the designated data source, then the data will not be displayed in the **TRAMReports™** report.
6. If added criteria exists in the **Where Tab** and it is not removed, reports will not display originally selected items prior to the hard coded selections made within the **Where Tab,** unless the added criteria has been removed within the **report designer module** and the report has been refreshed.
7. **TRAMReports™** will generate reports based on "what you get is what you ask for" in the report displayed. (**WYIWYAF**)
8. The reports will be displayed in a "what you see is what you get" format. **(WYSIWYG**)
9. Complicated queries and/or lengthy requests for data retrieval the run time may vary in length.
10. Run-time may vary based on network traffic.
11. In some instances, it may be imperative to pull separate reports from one table at a time to compare results to other tables, joined tables and/or previously generated reports. This may help identify variations in anticipated outputs.
12. Prior to executing the refresh command, consider using the where tab to drill down on specific items to decrease report run time.
13. Data entered in the value fields is **CASE** sensitive.
14. If a Server is down or the proper passwords were not entered, **TRAMReports™** will not be able to access that specific DSN(s) appropriately.

TRAMReports™ Operational Tips Continued:

15. To insure proper mapping and identification of any DSN, exit **TRAMReports™** if a DSN has been created while **TRAMReports™** was open.
16. If a many to many relationship has been requested, the time to retrieve the report may be very lengthy and it may be in the best interest of the user to end task and revisit the request being made.
17. Changes can be made to a report without refreshing the data from a report template by right clicking the report-generated icon. This activates the **report designer module** and modifications for that report can be made directly.
18. When entering in your user name and password to access a DSN via the network and error is prompted, check with your network administrator to see if the server is down.
19. If you can see a DSN and the available data sources, make sure you have rights to that data and the user name and password was entered correctly.
20. If you don't see the data source, confirm that the DSN is properly configured within your ODBC settings.
21. If you can see an *Oracle* DSN but not the data elements confirm the client machine, server and password meet *Oracle* standards.

Support or Product Information

For support or product information on **TRAMReports™,** please contact Patricia Riggs at ITG, by the following information:

e-mail: trisha@itgonline.com

703-698-8282 **Ext**. 227

Potential Technical Architectures

TRAMReports™ may be customized to accommodate any necessary business requirements. Some examples are listed below:

- The **TRAMReports™** program may be available in a browser based "fat-client" or "thin-client" application.
- **TRAMReports™** may be configured to work with other platforms.
- Automatic alert notifications may be associated with any parameters to recognize record items. ***For example:*** records with any missing data elements or records keyed in as dispute.
- Automatically recognize differences in outputs from different databases according to your business requirements.
- Send alerts on total amount spent compared to obligation or credit limit.
- Recognize unauthorized transaction items.
- Use **TRAMReports™** on a network and allow multiple users to access and/or create reports.
- Pre-defined (canned) **TRAMReports™** may be available to selected users.
- Use **TRAMReports™** as an information management system.

About TRAMReports™

1. Select the **About button** to review ITG license information on **TRAMReports™.**

How to purchase TRAMReports™ ?

If you are using the 30-day trial CD offer, you may keep that particular CD installed on your client machine and carry over any previously made **TRAMReports™.** After 30 days has expired, call ITG at 703-698-8282, to purchase **TRAMReports™.**

You will be provided instructions on how to enter in a code to re-activate **TRAMReports™.**