

Thin Client for the Windows Platform - "Jazz Front"

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ABSTRACT

"Jazz Front" is the code name for a new Windows Thin Client that is available with the Nashville release. "Jazz Front" provides a point and click, code based user interface to all the Version 7 SAS® System servers. "Jazz Front" provides transparent data access to both SAS and non-SAS data, interactive dialogs that lead you through dozens of analytical and reporting tasks, the ability to export results to other Windows applications and to the Web, and the ability to schedule your project to run at a later time.

INTRODUCTION

This thin-client Windows application provides transparent, simultaneous access to all Version 7 SAS System platforms, including Windows, Unix and mainframe systems. "Jazz Front" is a separate Windows application that communicates with the SAS System to access data, execute code and generate results. Behind the scenes, the SAS System does all the work so you get a native Windows user interface with the power, stability and scalability of the SAS System. The results generated by the SAS System take advantage of Version 7 Output Delivery System (ODS) to format and present results. You can save your results either with your "Jazz Front" projects or export them individually using e-mail or your favorite browser. Once you have created a project, you can schedule it to run periodically to create results that reflect changes that have occurred with your data.

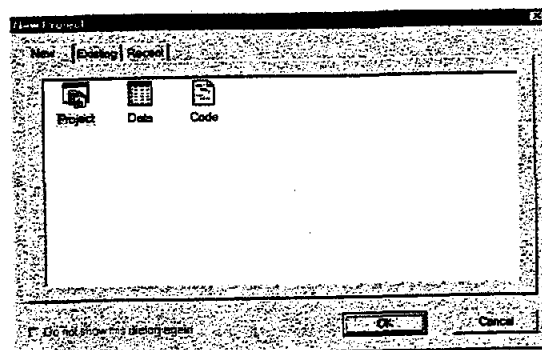
SAS SYSTEM ACCESS

"Jazz Front" can simultaneously use the SAS System for Windows, Version 7, that is installed on your local PC as well as any Version 7 SAS System for Windows, Unix or the mainframe that is installed on these machines. In order to provide this access, "Jazz Front" requires a Version 7 or greater SAS server. "Jazz Front" is a true thin client application – there is no need for the SAS System to be installed on the same machine where "Jazz Front" is installed as long as you have a SAS System available.

USER INTERFACE

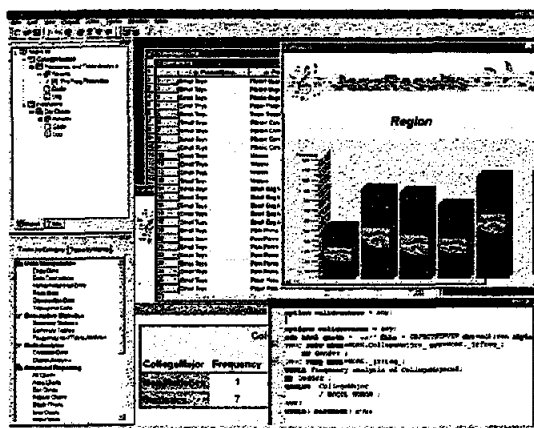
"Jazz Front" uses a project-centric user interface like many other Windows products. Data, tasks, and results for a particular project display in a project tree.

When you first start "Jazz Front", you can choose to create a new project, new data or new code. Here is the initial splash screen:



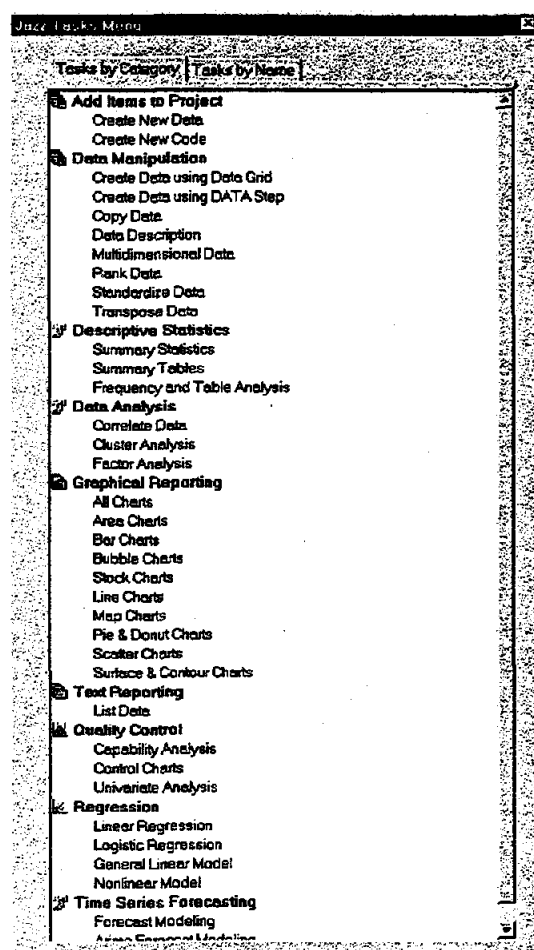
The tasks in a project are data-centric. The data can be either SAS or non-SAS data that can be stored either locally or remotely. "Jazz Front" provides a set of dialogs, wizards and property sheets to front-end the power of the SAS System.

Here is an example of a "Jazz Front" project that contains SAS and non-SAS data, a "Frequency and Table Analysis" task, a "Bar Chart" task and the results that each task generated:



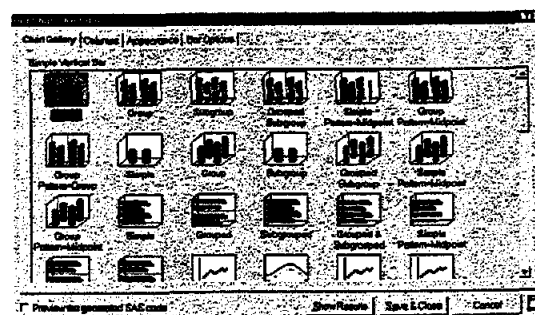
The "Jazz Front" interface is a point and click guide through the entire SAS language and all of the SAS System procedures. The task dialogs are organized by the tasks that you want to accomplish or by the reports that you want to generate. You can select a task using the menu bar, toolbar or the task selector. Using the task selector, you can select a task either by category or by name. If you are familiar with the SAS language, you can choose your task by procedure name or task description. You can browse through the list of task descriptions and choose the appropriate one. There is a broad spectrum of tasks ranging from simple data listings to the most complex analytical procedures. A very complete graphics gallery is also available.

Here is the task selector with the tasks grouped by category:



Tasks generate SAS code and formatted results. The Version 7 ODS system generates the results information. You can also view the SAS System log for each task that you have run.

Here is an example of a graphics dialog that "Jazz Front" provides:



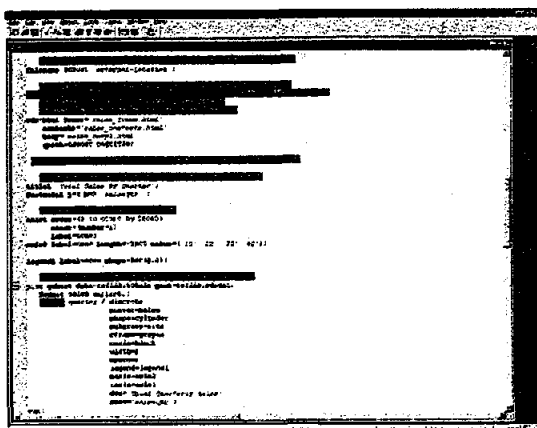
You can save the results from each task you run as HTML that can be used in any browser. The "Jazz Front" graphics re-

sults are interactive – you can click on a graph and modify the graph's presentation.

Projects may also contain log information as well as “yellow sticky” note information. For documentation purposes, you can also add existing files to your project such as Microsoft Word or PowerPoint files.

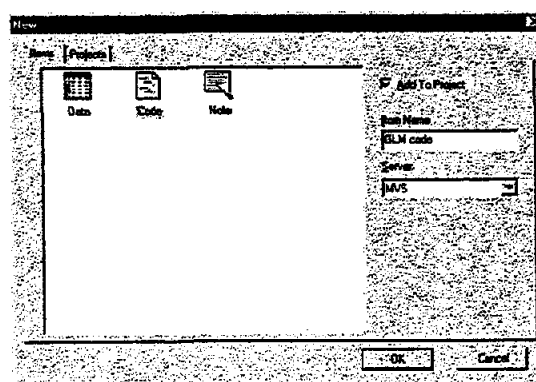
“Jazz Front” provides a color-coded, syntax-checking SAS language editor. You can use the editor if you want to view and/or edit existing SAS programs that you have added to your project. You can use the editor to write new SAS code and add that code to your project. You can use the editor to view the SAS code or SAS log that “Jazz Front” has generated for you. The editor uses different colors to indicate the various SAS language keywords. Colors are used to indicate comments contained in the SAS code. In addition, if you have mismatched quotes in your code, you can quickly recognize where the missing quote belongs because of the text coloration. You can control all of the text coloration using the Options dialog. You can view your code steps by using the collapse and expand tools.

Here is the “Jazz Front” editor:



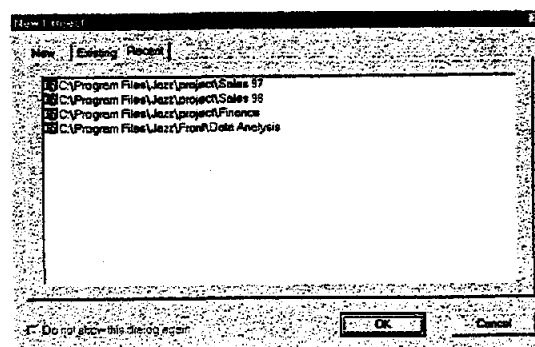
By default, new or existing code is run on your default server. If you want to run your code on a different server, you can select the server from the list of available servers when you add your code to your project. Also you can change the designated server using the Properties dialog.

Here is the New Code dialog where a new code node named “GLM code” is being created to run on the server “MVS”:



Another feature of “Jazz Front” is the ability to save your project and reopen it at a later time. All of your data, tasks and results are saved in your project. Once you have saved your project, you can quickly get back to your work by “double clicking” your project name in the Windows Explorer. You can also use the Existing or Recent tab in the Jazz splash screen to access your saved project.

Here is the Recent tab in the Jazz splash screen:

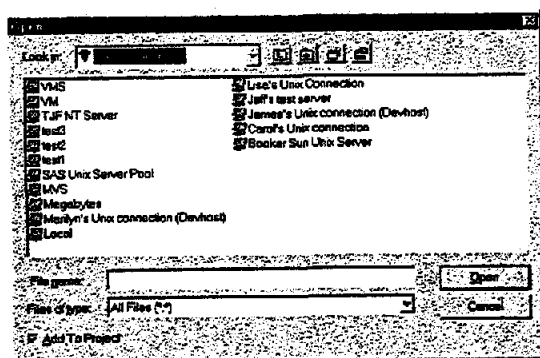


DATA ACCESS

"Jazz Front" provides transparent access to both SAS and non-SAS data. For example, suppose you add a data set from your MVS system and a Microsoft Excel spreadsheet from your PC to your project. You can view either file with the "Jazz Front" data grid. You can use the variables from either file in any of the "Jazz Front" tasks. By default, tasks run on the server where your data is located.

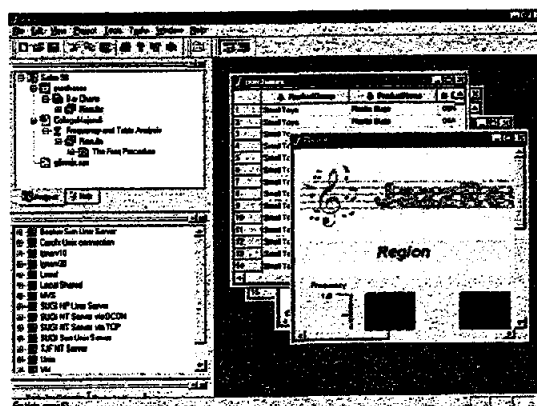
Moving data and accessing remote data is also easy within "Jazz Front." You can drag an Excel file and drop it on one of the systems where you have your SAS System installed, like MVS, to move the contents of the Excel file from your PC to the MVS system. From the "Jazz Front" Open dialog, you can navigate the native file systems of all machines where you have the SAS System installed.

Here is the "Jazz Front" Open dialog with several SAS servers:



You can add data to your project using the "Jazz Front" Open dialog. In addition, you can drag local data files from your Windows Explorer into your "Jazz Front" project. Using the Server View control bar, you can drag files from any remote server into your project.

Here is the "Jazz Front" application with an active Server View control bar:

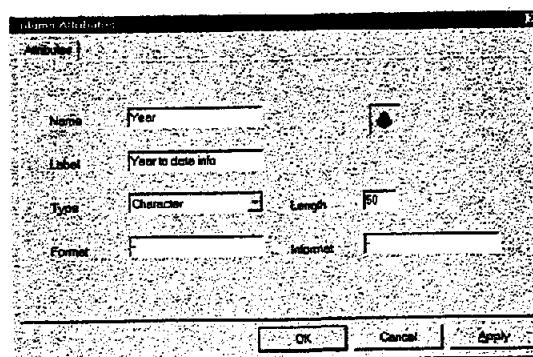


DATA GRID

You can use the "Jazz Front" data grid to browse and manipulate existing data. You can sort the data columns, view either the column or label names, view column attributes or add comments to a particular column. You can also hide columns of data.

Using the data grid, you also can create a new data source and store the data on any of your SAS servers. You enter data by simply typing information in the data grid cells. In addition, you can also copy data from an existing grid using copy and paste or drag and drop. Using the Column Attributes dialog, you can change a column name, label, type, length, or format.

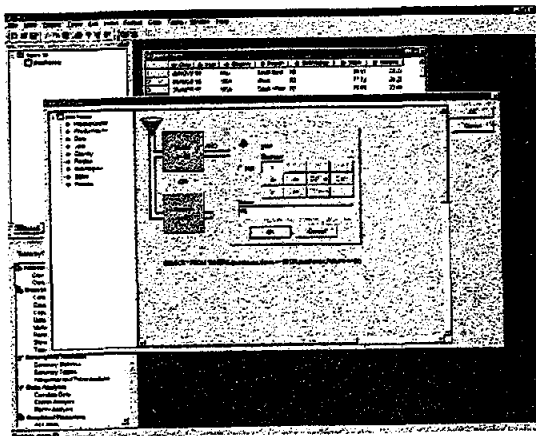
Here is the Column Attributes dialog:



QUERY BUILDER

In addition to using data "as is" from the table, you can use the graphical Query Builder to filter data, select columns, set ranges and sort your data before you use it for a task. You can also join one or more data tables. This interactive tool lets you build queries without being an SQL expert. The AND and OR relationships can be changed by dragging the column objects around to change the "flow" of the data that is filtered. To create expressions, point and click on column objects and use the simple dialog to set the filtering conditions.

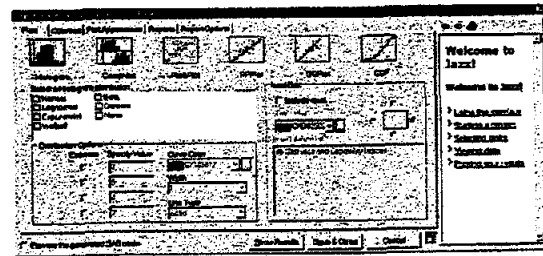
Here is an example query created using the Query Builder.



INTEGRATED HELP

"Jazz Front" provides user assistance through a combination of a standard help system and innovative integrated aids. For example, the help topics that describe the details about performing a particular task are attached directly to the task window so that you can view the topic as you navigate the task.

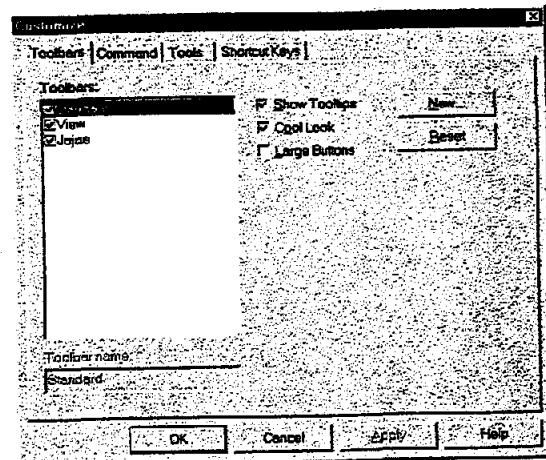
Here is an example from the Capability Analysis task:



CUSTOMIZABLE USER INTERFACE

"Jazz Front" is fully customizable at the user and site level. At the user level, you can customize the appearance of "Jazz Front" using the Customize dialog. This dialog allows you to customize the menus, toolbars, and accelerators. You can add custom tools to your Tools menu. You can access the Customize dialog by using the menu and selecting Tools->Customize, or by pressing your right mouse button in the toolbar area.

Here is the Customize dialog:

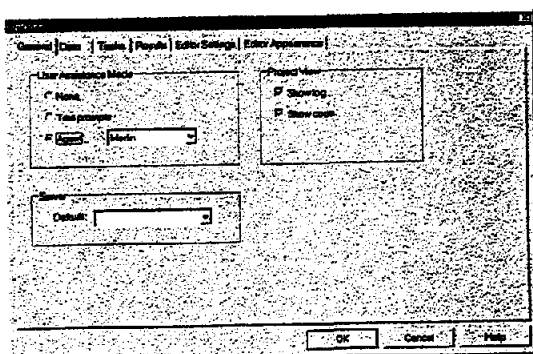


Existing tasks can be extended with user modifications. Once you have created an extended task, you can save this task as a Custom task.

Using the "Jazz Administrator", you can customize the list of available tasks that "Jazz Front" provides to a particular user or a group of users.

You can use the Options dialog to configure the way the "Jazz Front" application behaves. You can change your default server. You can control the presentation of your project view – you can suppress the code and log nodes under each task. You can control the appearance of the Data Grid. You can override the results' appearance with various ODS styles. You can specify whether your HTML graphics will use the ActiveX control or GIF files. You can set the colors used for displaying the SAS code in the editor windows.

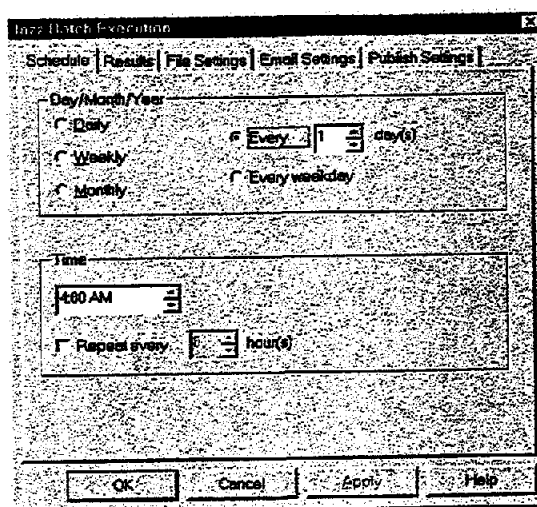
Here is the Options dialog:



SCHEDULER

One of the strengths of the SAS System is the ability to repeat tasks. Once you have created a project in "Jazz Front", you can schedule either the entire project or a portion of that project to run in batch at a later time. You can specify that the generated results be published as an HTML file. You can automatically e-mail or print your results. Additionally, you can automatically publish your results to a specific web server.

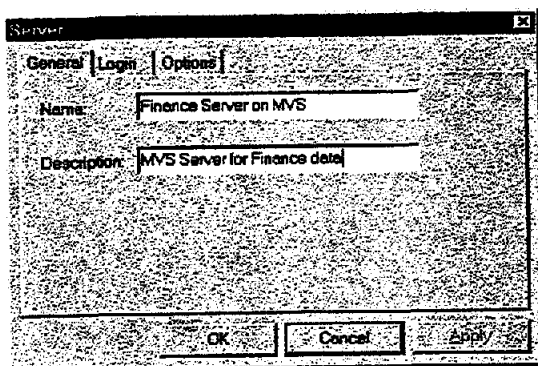
Here is the Scheduler dialog:



ADMINISTRATION

If you have a SAS System installed on your local PC, by default "Jazz Front" will automatically connect to that SAS System and use it as the default server. If you want to connect to other SAS System servers, you need to tell "Jazz Front" where the servers are located. Using the "Jazz Administrator", you can set up the servers for your company. For each server, you specify a name like "Finance server on MVS" and a description like "MVS Server for Finance data". You specify either the actual domain name like "mvs.sas.com" or the IP address like "10.10.3.255". You specify the type of protocol used to connect to the server – either DCOM or TCP/IP. You can either specify user login information or you can choose to be prompted for the user login name and/or password when an actual SAS System server connection is established. You can designate the default server.

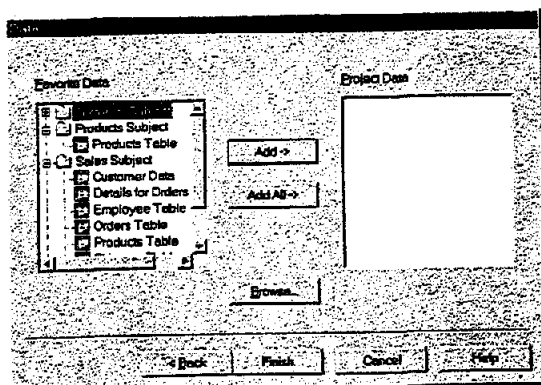
Here is a sample property sheet for a MVS server:



For each server, you can set up SAS libraries that will be created when you establish a connection to that server.

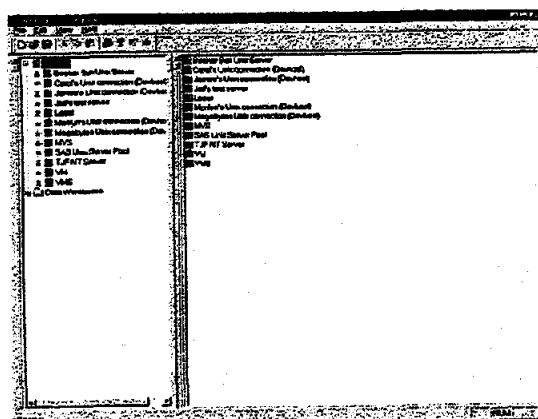
Using the "Jazz Administrator", you can set up a list of Favorite Data sources. This list can contain SAS and non-SAS data. The data can be located on the local PC as well as any of the remote SAS servers. This list will appear in "Jazz Front" as a quick way to select data.

Here is the Favorite Data list that is used in the "Jazz Front" New Project Wizard:



On a site, group or user level, you can set up SAS server access, SAS libraries and Favorite Data sources. Additionally, you can customize the task dialogs that appear on the "Jazz Front" menus.

Here is the "Jazz Administrator" application.



CONCLUSIONS

At the time this paper was written all the details concerning "Jazz Front" (including the official name of this application) were still being finalized. You can refer to the SAS Institute web site, <http://www.sas.com/software/app/activex.html> for more details.

REFERENCES

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