

## Changes and Enhancements in Release 6.11 of the SAS® System for Open Systems

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### ABSTRACT

This paper describes many user interface enhancements provided in the SAS System for Open Systems, Release 6.11 and the 6.11 add-ons.

### INTRODUCTION

The SAS System, Release 6.11, for Open Systems makes it easier to use and customize the SAS System. Among the user interface enhancements are dialogs that make it easy to open files, search for and replace character strings, send e-mail, customize fonts, enter SAS commands, and much more.

The add-on to 6.11 will continue these enhancements by providing an easy way to print from SAS and a new dialog that makes it even easier to customize X resources.

All of these new features were designed to be functionally equivalent to their Microsoft Windows counterparts thereby allowing easy migration between the two platforms.

### USING THE NEW DIALOGS

#### Opening Files and Changing Directories

The new File Selection dialog, shown in Figure 1, provides you with many improvements over the standard Motif File Selection dialog.

- The dialog displays your files in a hierarchy that makes it easier to traverse complex directory structures.
- Protected directories are identified with a locked folder icon.
- The improved file filtering allows you to ignore a filter's case and to screen out hidden files.
- The filter list includes the most common types of files the SAS System uses, but you can easily add your own file types.
- Confirmation dialogs help prevent you from overwriting files unintentionally.

You can use the DLGOPEN, DLGCDIR, and DLGSAVE commands to invoke this dialog from the

command line or from within your SAS/AF® applications.

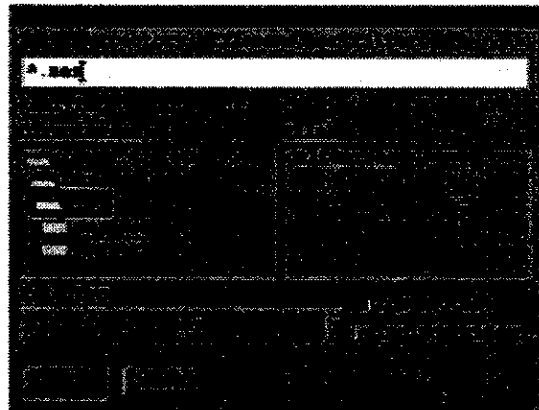


Figure 1 - The File Selection Dialog

#### Using the File Selection Dialog in SCL

The following SCL code shows how to use the File Selection dialog to select a file to be included into the Program Editor.

```
RC=FILEDIALOG("OPEN",FILE,"/usr/tmp",
              "**","*.sas","*.txt");
COMMAND="PGM;INCLUDE " || FILE || ".!";
CALL EXECCMDI(COMMAND);
```

The FILEDIALOG function takes several parameters that allow you to specify whether you are opening or saving files, which directory to look in first, and which file filters are valid.

#### Using the SAS File Browser

In the add-ons to Release 6.11, a new SAS File Browser will be included. Like the File Selection dialog, this dialog will use a graphical hierarchy for representing SAS files. This dialog will allow you to quickly navigate and manipulate your librefs, catalogs, and datasets.

#### Finding and Replacing Strings

You can use the Find and Change dialogs to search for and replace strings in any SAS Editor window (such as the PROGRAM EDITOR and SCL EDITOR).

You can leave these dialogs open while you work with the SAS System. However, if you choose to close and re-open these dialogs they remember the

text and settings you entered from previous invocations.

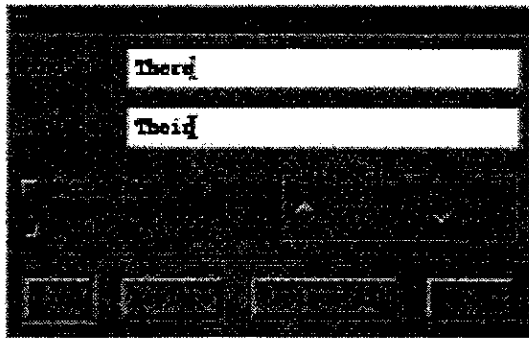


Figure 2 - The Change Dialog

In SAS Editor windows, you can use the EDIT->FIND... and EDIT->CHANGE... pull-down menus to invoke the Find and Change dialogs. You can also use the DLGFIND and DLGREPLACE commands to invoke these dialogs from the command line or from within a SAS/AF® application.

### Sending E-Mail

The Send Mail dialog allows you to send e-mail without leaving your current SAS session. The dialog automatically picks up the contents of the active SAS Editor window so you can quickly and easily include the window contents in your message. Figure 3 shows the Send Mail dialog with a SCL Program included.

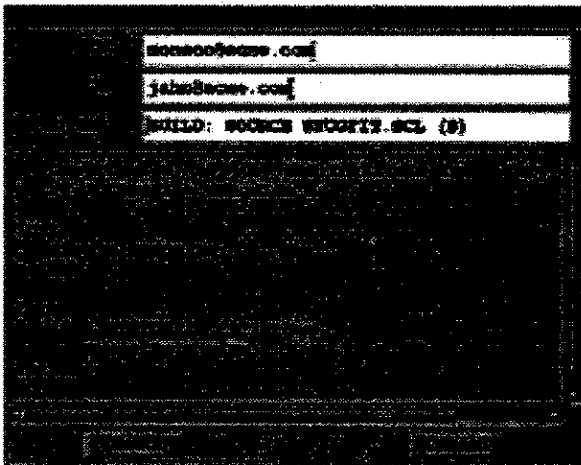


Figure 3 - The Send Mail Dialog

In SAS windows that contain printable text you can access this dialog from the FILE->SEND MAIL... pull-down menu or with the DLGSMAIL command.

### Sending E-Mail From the DATA Step

Release 6.11 also provides the EMAIL access method. This access method allows you to send e-mail in a DATA step. For example, the following DATA step sends a one-line message:

```
FILENAME OUTBOX EMAIL 'user@acme.com';
DATA _NULL_;
FILE OUTBOX
  SUBJECT='SUGI EXAMPLE';
PUT "This is that SUGI example.";
RUN;
```

### Sending E-Mail in SCL

The EMAIL access method is also available in SCL. The following SCL code does the equivalent of the above DATA step:

```
RC=FILENAME("OUTBOX","", "EMAIL");
FID=FOPEN("OUTBOX","W");
RC=FWRITE(FID,"!EM_TO! user@acme.com");
RC=FWRITE(FID);
RC=FWRITE(FID,"!EM_SUBJECT! SUGI EXAMPLE");
RC=FWRITE(FID);
RC=FWRITE(FID,"This is that SUGI example.");
RC=FWRITE(FID);
RC=PCLOSE(FID);
```

### Customizing Fonts

The Font Selection dialog, shown in Figure 4, allows you to access all fonts available on your X server. The dialog is used in several different contexts within the SAS System:

- The DLGFONT command uses this dialog to allow you to dynamically change your SAS session font. The font you select overrides your DMSFont X resource and is retained between SAS sessions.
- SAS/INSIGHT® and SAS/GRAPH® use this dialog to allow you to change fonts within their respective applications.
- When building SAS/AF® applications you can use the FONTSEL SCL function to access this dialog, as shown in the following section.

### Using the Font Selection Dialog in SCL

The following SCL code shows how to use the Font Selection dialog to select a font and then apply that font to a graph object.

```
BACKUP=OPTGETN("MULTENVAPPL");
RC=OPTSETN("MULTENVAPPL",0);
FONTL=MAKELIST();
FONTL=FONTSEL(FONTL,'A');
RC=OPTSETN("MULTENVAPPL",BACKUP);
CALL NOTIFY("GRAPH",
  "_SET_FONT_LIST_", "GRAPH", FONTL);
```

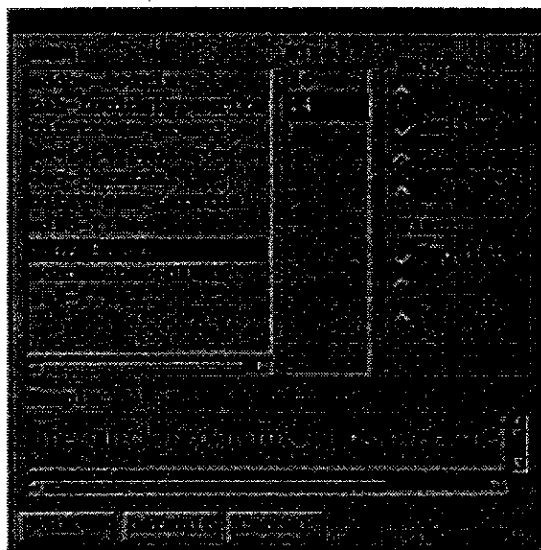


Figure 4 - The Font Selection Dialog

## USING TOOLBOXES

Release 6.11 of the SAS System for Open Systems includes a new window called the toolbox. Toolboxes allow you to associate icons with display manager commands. You can define multiple toolboxes and switch between them, and you can define toolboxes for specific windows or applications, such as SAS/AF<sup>®</sup> applications.



Figure 5 - The Toolbox Window

You can use the Tool Editor dialog, shown in Figure 6, to customize your toolboxes and create toolboxes for your SAS/AF<sup>®</sup> applications.

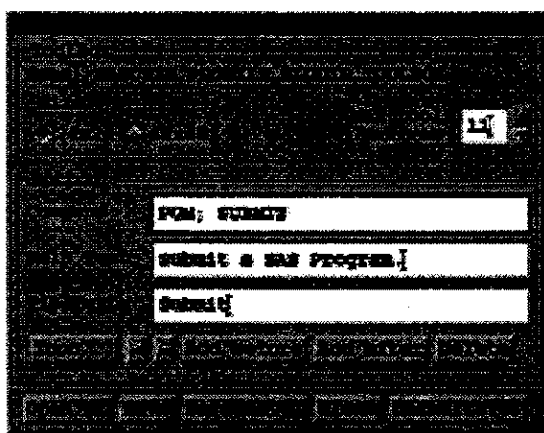


Figure 6 - The Tool Editor Dialog

Several new commands are provided so you can control the toolbox window.

- **TOOLLARGE [ON | OFF]** - Change the size of the toolbox icons.
- **TOOLTIPS [ON | OFF]** - Turn tooltips on or off.
- **TOOLCLOSE** - Close the toolbox window.
- **TOOLEDIT [LIBREF.CATALOG.MEMBER]** - Edit a TOOLBOX entry.
- **TOOLLOAD [LIBREF.CATALOG.MEMBER]** - Load a TOOLBOX entry.

### Defining a Toolbox for a SAS/AF<sup>®</sup> Application

To define a toolbox for your application all you have to do is create a TOOLBOX entry with the same library, catalog, and entry name as the PMENU entry of your application. For example, if your application has a PMENU name of MYLIB.MYCAT.MYMENU then issuing **TOOLEDIT MYLIB.MYCAT.MYMENU** defines a toolbox for your application.

After your application has defined the toolbox, it then becomes a portable part of the application and can be ported to the Microsoft Windows and Macintosh environments.

### Defining Toolboxes for any SAS Application

Any SAS application that has a pull-down menu defined can also have a custom toolbox defined. You can define a toolbox for an application by issuing the **TOOLEDIT** command. This command automatically sets up the custom TOOLBOX entry specific to the application in your **SASUSER.PROFILE** catalog. The custom toolbox will be loaded automatically when the application is invoked.

## CUSTOMIZING X-RESOURCES

With the SAS System for Open Systems, X resources control virtually every aspect of your SAS Session. Release 6.09 of the SAS System introduced the Resource Helper, a graphical interface that makes it easy to customize X resources. Release 6.10 and now Release 6.11 provides a completely new version of the Resource Helper that allow you to customize key-bindings, fonts, and color-related X resources.

You can invoke the Resource Helper from anywhere in SAS by issuing the **RESHELPER** command or from outside of SAS by running the `reshelper` application provided in the SAS utilities directory.

After you have customized your X resources with the Resource Helper, you must restart your SAS session.

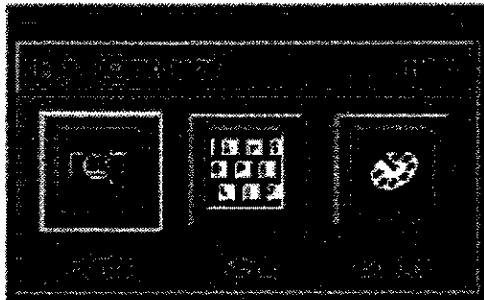


Figure 7 - The Resource Helper

### Using the Preferences Dialog

The add-on to Release 6.11 will include a new Preferences dialog that allows you to change the most frequently used SAS X resources dynamically. With Preferences, you will not have to restart your SAS session before the changes take effect.

The previous mechanisms for specifying X resources will still be in place such that site administrators can set site defaults, but users will be now be able to override those site defaults dynamically with the Preferences dialog.

### New X-Resources

Many new X resources are provided in Release 6.11 and the add-on to Release 6.11.

- **usePmenuMnemonics** [ TRUE | FALSE ]

Pull-down menu mnemonics allow you to navigate through pull-down menus without having to use the mouse. If you set **usePmenuMnemonics** to TRUE you can navigate pull-down menus by entering the underlined character. (Mnemonics are sometimes referred to as "menu access keys.")

- **startupLogo** [ *filespec* | None ]

The SAS System displays a startup logo (or splash screen) when you start your session. You can specify the bitmap file that is displayed with the **startupLogo** X resource.

- **defaultCommandWindow** [ TRUE | FALSE ]

Release 6.11 includes a new, compact command dialog window. This X resource allows you to automatically open the dialog at the beginning of your session.



Figure 8 - The Command Dialog

- **defaultToolBox** [ TRUE | FALSE ]

By default, the toolbox window appears when the SAS System initializes. You can disable this behavior by setting this resource to FALSE.

- **graphicsClipboardPath** [ *directoryspec* ]

When you copy and paste graphics in SAS a scratch file is generated by default in `/usr/tmp`. Each user generates a unique scratch file which is retained between SAS sessions. You can change where the scratch file is generated with this X resource.

- **toolboxTipDelay** [ *milliseconds* ]
- **useToolBoxTips** [ TRUE | FALSE ]

Each tool in the toolbox window displays a tip if you position the mouse pointer in a tool for a specified interval. A tip is short description of what the tool does. The **toolboxTipDelay** resource controls this interval in milliseconds. If you do not want tooltips to be displayed you can disable them by setting the **useToolBoxTips** resource to FALSE. You can also set these resources through the Preferences dialog in the add-on to Release 6.11.

- **useCommandToolBoxCombo** [ TRUE | FALSE ]

With the add-on to Release 6.11, the command and toolbox windows are combined by default. You can control whether these windows are combined with the **useCommandToolBoxCombo** X resource. You can also set this resource through the Preferences dialog.



Figure 9 - Combined Toolbox/Command Window

## DISPLAYING HELP

Release 6.11 of the SAS System for Open System ships with Helplus, a hypertext help system developed by SAS Institute for the X Window System. Helplus is modeled after Microsoft Windows help, and provides similar functions, such as the ability to annotate topics, define bookmarks, and navigate within the help file (help history, contents, keyword searches, and browse sequences).

The Helpus developers kit, which is a separate product, allows you to build your own help files. You can display these help files using the HOSTHELP function. For example, to display the contents topic of the file myhelp.hlp submit the following DATA step:

```
DATA _NULL_;
RC=HOSTHELP("HELP_CONTENTS", "myhelp.hlp");
RUN;
```

The add-on release to 6.11 will also include an enhanced version of Helpus that allows you to print help to Postscript and PCL Printers.

## PRINTING

The add-on to Release 6.11 will integrate Bristol Technology's X/Printer package into the SAS System. This package gives you a uniform model for printing within the SAS System and will support all HP Postscript and PCL printers as well as many others. You will also be able to preview your output without actually printing anything.

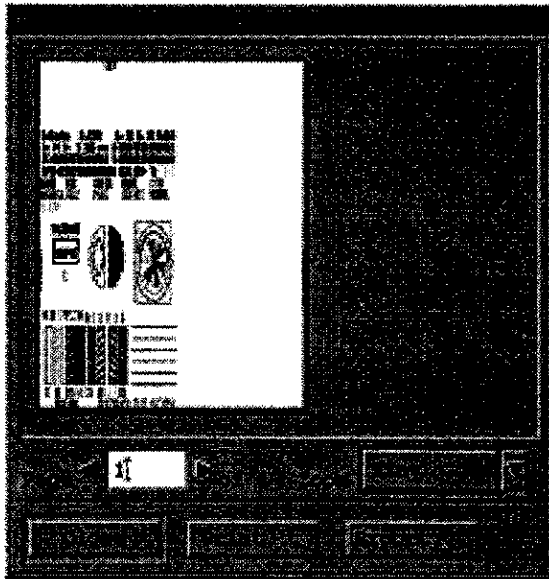


Figure 10 - The Print Preview dialog

## CONCLUSION

Release 6.11 of the SAS System provides many incremental improvements in the SAS System. New dialogs, a fully customizable toolbox, and new X resources come together to make the SAS System much easier to use and customize. The scheduled add-on release will continue these incremental user interface enhancements with new dialogs and a new printing model.

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## REFERENCES

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