

It's all change here at VIEWS. The composition of the committee has changed and we have big plans for this year's main conference. See *News* for details.

I expect you have received a copy of this year's VIEWS calendar. It has proved popular in the past and I am pleasantly surprised by the number of clients whom I visit with their VIEWS calendars proudly displayed on their desks. Sponsored by the leading suppliers of SAS services in the UK, the calendar provides a useful directory for those services throughout the year.

Andrew Ratcliffe (Editor & Acting Chairman)

The Consultant

This part of VIEWS News is where you can get your technical questions answered. Send your questions to the Editor.

Programmable Catalog Listings

Q: My SAS/AF® SCL program gets a list of catalog entries from SASHELP.VCATALG, but it seems extremely slow. Is there a better way to get this information?

A: SASHELP.VCATALG is indeed very slow. Try this example that works with both V6.12 and V8:

```
classid=loadclass('sashelp.fsp.catalog.class');
objectid=instance(classid);
example=makelist();
call send(objectid,'_SETUP_', 'WORK.SAMPLE');
call send(objectid,'_GET_MEMBERS_', example);
```

WORK.SAMPLE is obviously the name of the CATALOG. Also, if you need to use Base SAS then use PROC DISPLAY to execute the SCL code.

Amadeus Software Consultancy Team

How About XML?

Q: I need to read an XML stream into my SAS program. Is there anything built into SAS, or do I need to write my own DATA step (yuk)?

A: You're saved, if you're running V8. Version 8 of SAS includes an XML engine that you can use with the libname engine. Curiously, there's no mention of it in my Online Doc CD, but it seems to be well documented in the Online Help – just click the Help button on the toolbar and search for XML.

The engine supports a number of different implementations of the standard(!) and can:

- generate an XML document from a SAS data set. The output XML document can be:
 - exported to a product that processes XML documents.
 - moved to another host for the XML engine to then process by translating the XML markup back to SAS proprietary format.
- import an external XML document. The input XML document is translated to SAS proprietary format.

Greg Barnes Nelson presented a valuable Advanced Tutorial on SAS and XML at SUGI 25. His paper is available at <http://www2.sas.com/proceedings/sugi25/PROCCED.pdf>. It makes very good background reading. Greg discusses XML in the context of SAS applications and how it can be used in the preparation and presentation of data.

Andrew Ratcliffe

Professional Percentages

Q: Many of us frequently present results where percentages are displayed in the format "(nn%)". In the process of reporting such results I generally

seem to have to do a large amount of manipulation and lose the flexibility of a numeric variable for reporting and summarising. Do you have any suggestions for an elegant method of achieving professional-looking percentages?

A: I have used picture formats rather successfully, such as those that follow:

```
Proc Format;
  Picture pct1dp
    LOW-HIGH = '0009.9%' (prefix='(');
  Picture pct0dp
    LOW-HIGH = '0009%' (prefix='(');
Run;
```

The format pct1dp when applied to a numeric variable displays results to one decimal place, similarly the format pct0dp displays a numeric variable as an integer.

```
Data test;
  Format percent pct1dp;
  Input group $1 category $3 count total;
  percent= (count/total)*100;
Cards;
A X 196 200
A Y 3 200
A Z 1 200
B X 100 100
B Y 0 100
B Z 0 100
;
Run;

Proc Report Data=test NoFS Missing HeadLine HeadSkip;
  Column ('--' category group, (count percent));
  Define category / Group Order=Internal 'Category' Width=10 Left;
  Define group / Across Order=Internal '-- Group --';
  Define count / Sum 'N' Width=3;
  Define percent / Sum '(%)' Width=8;
  RBreak After / OL Summarize;
Run;
```

The above example produces the following table:

Category	Group			
	N	(%)	N	(%)
X	196	(98.0%)	100	(100.0%)
Y	3	(1.5%)	0	(0.0%)
Z	1	(0.5%)	0	(0.0%)
	200	(100.0%)	100	(100.0%)

David Shannon.

Did You Know?

If you have a useful hint or tip, please send it to the Editor and share it with the VIEWS membership.

Locally-Run Client/Server HOLAP

Ever wanted to run client-server HOLAP applications on your standalone PC? For demos maybe? Try this, it'll disable Remote Submits. Simply put this in the application autoexec...

```
options implmac;

%macro rsubmit / stmt;
%mend;
```

Now all your automatically-generated HOLAP code will run locally on your PC... Easy really...

Amadeus Software Consultancy Team

SCL Variables Can Be Too Local

V8 SCL allows the scope of SCL variables to be limited to a single method or even a single do-block. However, there are limitations to the use of this valuable technique. Consider the following simplistic code.

```
INIT:

do;
  dcl char country;
  dcl num actual;
  Dsid = open('SASHELP.PRDSALE');
  put dsid=;
  call set (Dsid);
  rc = fetch(Dsid);
  put rc= actual= country=;
  rc = close(Dsid);
end;
put actual= country=;

RETURN;
```

The code compiles without error, but when we run it we will be surprised to see the following output.

```
dsid=1
rc=0 actual=. country=
actual=925 country=.
```

SET only links SCL variables that are accessible to the entire SCL program. SET does not link local variables. In the example above, the fetch statement loaded copies of actual and country into SCL variables that are scoped at the entire SCL program, but the put statement echoed the values held in the SCL variables whose scope is limited to the do-end block. Notice how the wider-scoped copy of country defaulted to being a numeric value, despite the declare statement within the do-block.

Andrew Ratcliffe

A Few Words Of Caution When Using Savelist() And Copylist() Functions

You may be aware of the ARGLIST=listid and REST=listid parameters on an SCL entry or method statement. The former puts all the passed parameters into a list, while the latter puts all parameters that you passed but did not specify in the receiving entry or method statement into the list. Thus you have a powerful way of handling the situation where the number of expected parameters, or even the maximum number, is not known. For example:

```
A.SCL
  call display('b.scl', 1, 2, 3, 4, 5);

B.SCL
  entry x y z 8 rest=L_rest;
  INIT:
    put x= y= z=;
    call putlist(L_rest, 'REST=', 0);
```

produces:

```
X=1 Y=2 Z=3
REST=(4
      5
      ) [5]
```

But beware! If you use copylist() to copy such a list, or savelist() to save one to an slist catalog entry, the list attributes SAS gives these lists when it creates them is preserved. And in particular, NODELETE. If you are not careful you will find your application leaking memory as it copies these lists, or performs fillist() on a saved list, since the copies are not removed by dellist(). To delete these lists, first use the setlattr() function to give them the DELETE attribute.

Howard Lethbridge

Enhanced Editor Features and Futures

The Enhanced Editor was introduced with V8. It provides a much-improved environment for editing your Base SAS programs (and SCL and HTML too).

A number of additional features were introduced in V8.1 (a.k.a. V8e), and many more features will be added in V8.2 (likely to be launched in the UK in the first half of this year).

- **Multiple Selection in File/Open (New in 8.1)** - Bring up the File/Open dialog from the editor and use the Ctrl key to open several files at once.

- **User-defined keywords (New in 8.1)** - Add your own keywords to the set that the editor knows. They can be colored the same as or differently from regular SAS keywords.
- **Command line support (New in 8.1)** - If command lines are turned on, the HOME key takes you to the command line (as it does in the Program Editor).
- **WNEXTEDIT command (New in 8.1)** - Returns you to the editor from other windows. The WNEXTEDIT command brings up the most recently used enhanced editor instance. Invoking WNEXTEDIT repeatedly cycles through open Enhanced Editor instances in the order most recently used.
- **SAS file types (New in 8.1)** - Create a list of the file extensions you use for SAS programs, and the Enhanced Editor will treat files with those extensions as SAS programs (coloring keywords accordingly).
- **Multiple views of the same document (Coming soon in 8.2)** - You can now open a second view on the same SAS Program File or other text document using the "New Window" item on the Window menu. All views are updated when you change the text in any view.
- **Limited line number command support (Coming soon in 8.2)** - A subset of the Program Editor's line number commands can be used with the Enhanced Editor. These commands must be entered from the command line. There is no prefix area support in the Enhanced Editor. Supported commands are :I (Insert), :IA (Insert Above), :IB (Insert Below), :R (Repeat), and :D (Delete).
- **Fileref support (Coming soon in 8.2)** - The use of filerefs and aggregates is now supported on the INCLUDE and FILE commands for the Enhanced Editor.

For more information on the Enhanced Editor, browse [service/news/feature/11dec00/v8_editor.html](http://www.sas.com/service/news/feature/11dec00/v8_editor.html) on the SAS web site.

Andrew Ratcliffe

Where Am I Working?

One of my early tasks involved needing to know the name of the current working directory on my PC. I could see it displayed in the bottom right hand corner of the dialog box, but I couldn't find an easy way of accessing this from SCL code.

The method I employed follows.

```
/******
**
** The next lines work out the current Working Directory.
**
**
*****/

rc=libname('WORKDIR','.'); /* Create Libref to the current dir */
pathlist= makelist(0);

/* Reference the Library Class */
libclass=loadclass('sasHELP.fsp.library.class');
libobj=instance(libclass); /* Create a library object */
/* And assoc with WORKDIR */

call send(libobj, '_setup_', 'workdir');
call send(libobj, '_GET_PATH_', pathlist); /* Get Path */
```

Nigel Allerton

Graphics Backwards-Incompatibility

Starting with Version 8 of the SAS System, SAS/GRAPH will not create a graphics stream file (GSF) if the NODISPLAY graphics option is in effect. This behaviour is different to that of Version 6, where the GSF is still created even when specifying GOPTIONS NODISPLAY. Here is an example of a SAS/GRAPH program that generates a graphics stream file in Version 6 but not in Version 8:

```
filename grafout 'sastest.eps';
goptions reset=all
          device=pslpsf
          gsfname=grafout gsfmode=replace
          nodisplay;
proc gtestit; run;
filename grafout clear;
```

To create a graphics stream file in Version 8, specify GOPTIONS DISPLAY or remove NODISPLAY from the GOPTIONS statement altogether (since GOPTIONS DISPLAY is the default). As long as you specify a SAS/GRAPH device driver that writes output to a hardcopy device or to a file, you will not have anything display to your screen with GOPTIONS DISPLAY.

SAS Usage Note SN-000321

Formats, Options, and Functions

The **DOWNAMEw** Format writes date values as a day of the week. For example, `putn('1feb01'd,'downame.')` produces 'Thursday'.

Add the undocumented **-\$GUIFONT** option to your command line when invoking SAS V6.12 on Windows to give your SAS/AF applications a Windows look-and-feel. It will make text in push buttons, radio and check boxes look more like ordinary Windows button text.

The **RANGE** function returns the difference between the largest and smallest of its arguments. The arguments can be comma-separated, for example `"range(a,b,c,d)"`; or you may use the 'of' style with a list of variables, for example `"range(of a1-a3 d)"`; or you may use the 'of' style with arrays, for example `"range(of myarray{*} arr2{*})"`.

News

Committee Changes

It's all change here at VIEWS. Three of the stalwarts of the VIEWS committee have reduced their involvement due to personal reasons and increased work commitments. Phil Mason (Chairman) and Bruce Bovill (SAS Liaison) have stepped-down from their posts, and Louise Harvey (Treasurer) has resigned from the committee. All three have committed untold hours of their time over the last four years since VIEWS was inaugurated, and VIEWS would not be the successful organisation that it is without their immeasurable contribution. Mighty big thanks to all three of you.

Phil and Bruce will remain members of the VIEWS committee, so their talents and effort have not been entirely lost to us. Permanent replacements for all three posts will be published in the next issue of VIEWS News.

Coincidentally, they resign at a time when our relationship with SAS has never been stronger and we have big plans for this year's conference. Keep September 25th and 26th free in your diary. Yes, we're planning a 2-day event this year!

Belated Credit

It slipped my notice that Sheffield Hallam University (SHU) was presented with the 2000 SAS Enterprise Computing Award for Academic Institutions this year. The award was given in June at SEUGI - the SAS User Group meeting for customers throughout EMEA (Europe, Middle East, and Africa), held in Dublin.

Belated congratulations to SHU. See *Contacts* for info on the course.

Futrix Is Free!

Whilst the industrial strength versions of Futrix still require payment, a personal version (known as Futrix Express) is now available for free download from www.futrix.com.

Futrix is a pre-packaged SAS solution that can be linked to any SAS data and can provide users almost immediately, with an appealing Windows look-and-feel online analytical processing (OLAP) tool. Futrix can also be server enabled and web enabled, allowing for scalability. See the UK distributor (Amadeus) in *Contacts* for more information about Futrix.

Get It Done Quicker - In Parallel

If performance or turn-around time is of importance to your project, take a look at Orchestrate by Torrent Systems Inc. Torrent claim that their product can execute SAS PROC and DATA steps in parallel, and a lot more besides. See *Contacts* for information on Orchestrate.

In Brief

- When you are in build mode in a SAS/AF V8 frame, you can press the right mouse button on the name of a class in the Components-window. Now you can select 'Help on Class'. This provides a very convenient way of launching context-sensitive online help
- As a result of conflicts over the use of a trademark, two sites containing valuable information for SAS practitioners have "chosen" to change their names. www.sasconsig.com has moved to www.sconsig.com, and www.sashelp.com has moved to www.libname.com.
- This year's Data Mining SAS Users Group (DiaMond SUG) will be

held in Chicago, USA between May30th and June 1st. See www.diamondsug.com for details

- For the most up-to-date training information, browse offices/europe/uk/training/index.html on the SAS web site
- You can sign-up for free SAS e-newsletters at <http://www.sas.com/enewsletters>. You can select SAS Business Reports or SAS Technology Reports or both
- A V8 version of Qualex's Find2000 tool is available for free download at www.qlx.com. Find2000 searches SAS program code (including one or more catalogs), SAS data sets, and ASCII files
- If you would like to have a logo to use as a link from your web site to the SAS web site, you can go to contact/linkreq.html on the SAS web site and download SAS's "linking logo". Make sure you have prior permission to use any other logo
- When you are in build mode in a SAS/AF V8 frame, you can press the right mouse button on the "resources" word of the Components-window. Now you can add a new resource. If you choose sashelp.fsp.experimentalafcomponents.resource you will have simple access to classes such as the Treeview control. Always use experimental classes with caution. Do not use them in production systems

Diary of Events

Are you organising an event that would be of interest to the VIEWS readership? Let us know, as we are interested in all non profit making events related to SAS software.

March 2001

27th PharmaSIG

April 2001

22-25 SUGI,

Long Beach, California, USA

May 2001

1st ViewsNews 14th edition

29-1/6 SEUGI, Florence, Italy

30-1/6 DiamondSUG, Chicago, USA

September 2001

25-26 VIEWS main conference, London

Views News is published quarterly by VIEWS - the UK's independent SAS user group. VIEWS is a non-profit organisation. Our Mission Statement and Rules can be viewed on our web site together with a list of current committee members.

Contacts

Contributors and Contacts

Nigel Allerton Readers Digest	Email: nigel_allerton@readersdigest.co.uk
Amadeus Software	Email: info@amadeus.co.uk Tel: 01993-878287 Web: www.amadeus.co.uk
Howard Lethbridge Lethbridge Consultants Ltd.	Email: lethcon@dircon.co.uk Tel/fax: (020) 8933 5634
SAS UK	Tel: 01628 486 933 Web: www.sas.com/uk
David Shannon Quintiles	Email: david.shannon@quintiles.com Tel: 01424 776229 / Fax: 01424 772625
Sheffield Hallam Univ., Grad. School of Comp. And Mgmt. Sciences	Email: SASMS@shu.ac.uk Tel: 0114-225-4234 / Fax: 0114-225-5178 Web: www.careermsc.com
Torrent Systems Inc.	Tel: +1 617-354-8484 / Fax: +1 617-354-6767 Web: www.torrent.com

VIEWS

Web Site	www.views-uk.org
Andrew Ratcliffe Newsletter Editor	Email: newsletter@views-uk.org Tel: 01322-525672 / Fax: 0870-050-9662 Web: www.go-rtsl.com
Stephanie Penning SAS Liaison	Email: sasliaison@views-uk.org Tel: 01628-404262 / Fax: 01628-404303

SASASASAS@ASASASASA
SASASASAS@ASASASASA
SASASASAS@ASASASASA
SASASASAS@ASASASASA
SASASA **SAS@AS** SASASA
SASASASAS@ASASASASA
SASASASAS@ASASASASA
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ASA Ltd. First Floor, East Wing, Auckland House, New Zealand Avenue, Walton Upon Thames, Surrey KT12 1PL.
Contact Richard Field at ASA on Tel: 01932 701801 Fax: 01932 701800 Email: sas@asalt.co.uk

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