

Some New Features in SAS[®] 9.3 (Overview)

PhUSE, Wednesday, October 12 2011, Brighton

Daniel Christen, Client Manager (SAS Switzerland)



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Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.



Abstract

- What is new in SAS 9.3 – SAS Products
- Finding information in regards to new features and enhancements in SAS 9.3
- Upgrading to SAS 9.3 ?
Things you need to take into consideration
- A Couple of New Features

Duration : 25 Minutes

What's New in SAS® 9.3

Data Management, Storage, In-Databases

- SAS SPDS and Clients for 9.3
- SAS Grid Manager 9.3
- Miti Bridges for 9.3
- SAS/Access 9.3 (All interfaces)
- SAS/Warehouse Administrator 9.3
- SAS Data Surveyor for Salesforce.com 9.3
- SAS Data Surveyor for Oracle Applications 9.3
- SAS Data Surveyor for Siebel 9.3
- SAS Data Surveyor for SAP 9.3
- SAS/ACCESS to R3 9.3
- SAS XML Mapper 9.3
- DataFlux Data Management Platform 2.1 (maintenance pack to move to 2.1.2 also shipping)
- SAS (Enterprise) DI Server
 - DI Studio 4.3
- DataFlux Data Management Platform 2.1 components

Other

- SAS Management Console 9.3
- SAS Metadata Server 9.3
- SAS/ASSIST 9.3
- SAS/EIS 9.3
- Base SAS 9.3
- SAS/GRAPH 9.3
- SAS/Connect 9.3
- SAS/AF 9.3
- SAS/Secure 9.3
- SAS Integration Technologies 9.3
- Enterprise GRC 4.31
- Workflow Studio 1.1

Reporting / BI

- SAS OLAP Server 9.3
- SAS OLAP Server Monitor 9.3
- SAS OLAP Cube Studio 4.3
- SAS Web Report Studio 4.31
- SAS Web Report Viewer 4.31
- SAS Business Intelligence Portlets 4.31
- SAS Business Intelligence Dashboard 4.31
- SAS Business Intelligence Report Services 4.31
- SAS Information Delivery Portal 4.31
- SAS Information Delivery Portal JPS Extensions 4.31
- SAS Enterprise Guide 4.305
- SAS Add-in 4.305 For Microsoft Office
- SAS WIP Schedule Services 9.3
- SAS Web Themes 9.3
- SAS ESRI Bridge and Plugin 9.3
- SAS IntraNet 9.3 (plus supporting technology) with CGITools download
- SAS Framework Data Server 9.3
- SAS BI Lineage Plug-in for SAS Management Console 4.31
- SAS Web Parts 4.31 for Microsoft SharePoint
- SAS Information Map Studio 4.31
- SAS AppDev Studio 3.41
- SAS WIP Schedule Services 9.3
- SAS Mid-tier Platform Software
- SAS (Enterprise) BI Server
 - Updated technologies as per what is in the bundle

- SAS Analytics Accelerator for Teradata 2.1
- SAS Scoring Accelerator 4.1 (DB2, Aster Data, Greenplum, Teradata, Netezza)
- SAS Model Manager 3.1
- SAS/Genetics 9.3
- SAS Analytics Pro 9.3



What's New in SAS® 9.3

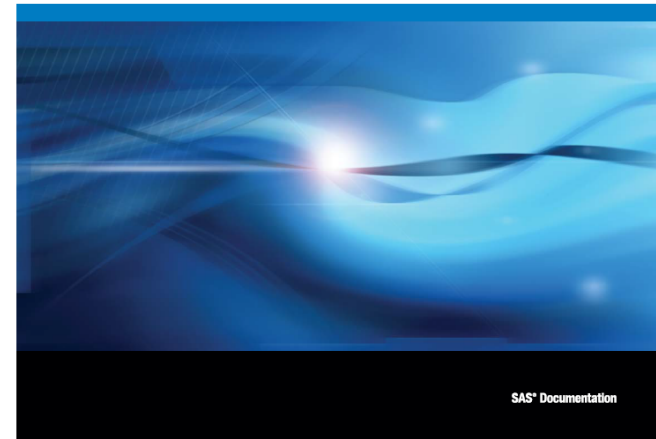
To get a better understanding of the thousands of new capabilities and enhancements in SAS 9.3, start with the «What's New In SAS 9.3» documentation, available for free at

- What's New in SAS 9.3 (online version)
 - <http://support.sas.com/documentation/cdl/en/whatsnew/64209/HTML/default/viewer.htm#titlepage.htm>
- What's New in SAS 9.3 (PDF version)
 - <http://support.sas.com/documentation/cdl/en/whatsnew/64209/PDF/default/whatsnew.pdf>

(Documents are also available as Kindle eBook on «Amazon.com» or as eBook in the «iTunes Store»)



What's New in SAS® 9.3



What's New in SAS® 9.3

- There is also product specific documentation available :

All Books for "SAS 9.3"



What's New in SAS 9.3
SAS Publishing
Released Jul 12, 2011
\$7.99 BUY



SAS 9.3 ODS Graphics
SAS Publishing
Released Aug 16, 2011
\$1.99 BUY



SAS 9.3 Intelligence Plat...
SAS Publishing
Released Jul 12, 2011
\$5.99 BUY



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KNOWLEDGE BASE / PRODUCT DOCUMENTATION

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SAS Product Documentation

SAS Release: 9.3
Product: Select Product
Product Release: Select Product Release

[Reset](#)

1 - 25 of 320 results for **what's new**

Sort by: [Date](#) | [Relevance](#)

2011-07-09 [What's New in SAS Simulation Studio 1.6: What's New in SAS Simulation Studio 1.6 - 9.3](#)

[SAS\(R\) Simulation Studio 1.6: User's Guide](#)

What's New in SAS Simulation Studio 1.6 Overview Expanded Support Improved Usability Enhanced Data Manipulation
http://support.sas.com/documentation/cdl/en/simsug/63965/HTML/default/whatsnew16_toc.htm, sds

2011-07-12 [What's New in SAS 9.3 In-Database Products: Administrator's Guide - 9.3](#)

[SAS\(R\) 9.3 In-Database Products: Administrator's Guide](#)

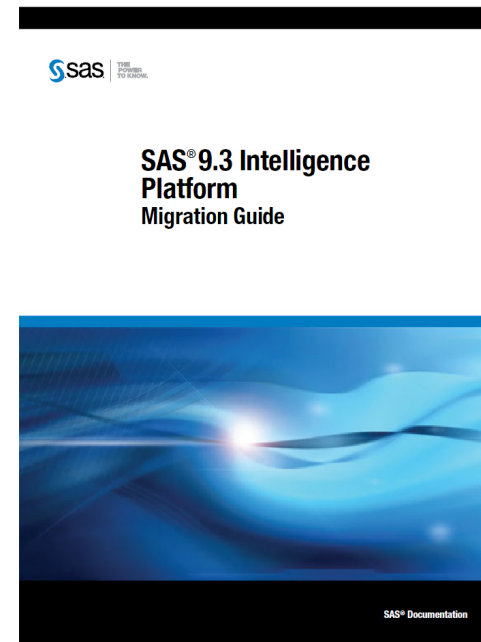
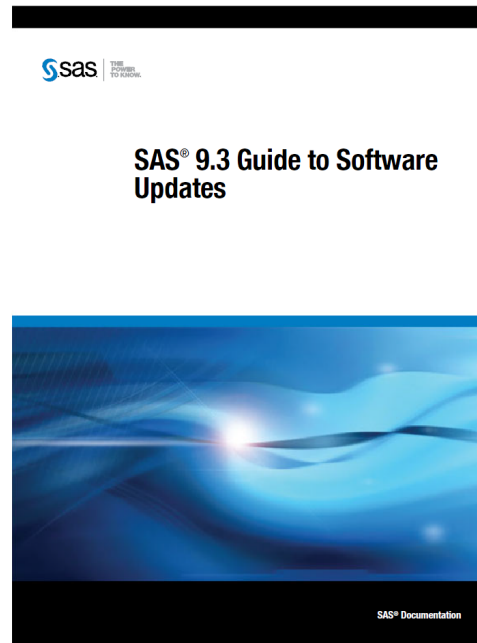
What's New in SAS 9.3 In-Database Products: Administrator's Guide Overview The SAS In-Database Products: User's Guide has
<http://support.sas.com/documentation/cdl/en/indbag/64465/HTML/default/indbagwhatsnew93.htm>, sds

<http://support.sas.com/documentation/93/index.html>

Considerations when migrating to SAS® 9.3

<http://support.sas.com/documentation/cdl/en/bimig/62613/PDF/default/bimig.pdf>

<http://support.sas.com/documentation/cdl/en/whatsdiff/63859/HTML/default/viewer.htm#titlepage.htm>



SAS® 9.3 Release Schedule

- Also take into consideration, that not all 9.3 version of SAS Products are released at the same time
 - i.e. SAS Clinical Standards Toolkit is available for installation **only** on Windows 32-bit operating systems. If you attempt to install this product on a Windows x64 operating system, then you cannot install the necessary components.
 - Currently, Windows x64 support is scheduled for the next release of SAS Clinical Standard Toolkit (1.4). This release is projected for the last quarter of 2011. Please note that the date is not firm and might change. Also note that it is planned as a 64-bit application that will install on the 64-bit platform only. It is not as a 32-bit application.

What's New in SAS® Grid Manager 9.3

- A SAS grid computing environment is one in which SAS computing tasks are distributed among multiple computers on a network, all under the control of SAS Grid Manager. In this environment, workloads are distributed across a grid of computers. This workload distribution enables workload balancing, accelerated processing, and job scheduling.
SAS Grid Manager runs in Microsoft Windows and UNIX operating environments.
 - Now also supports load balancing for SAS Stored Process servers, SAS OLAP servers, and pooled SAS Workspace servers
 - SAS Add-In for Microsoft Office 4.3 now enables tasks to be processed on a grid
 - Enhanced configuration support and to debug logs

SAS Grid Manager

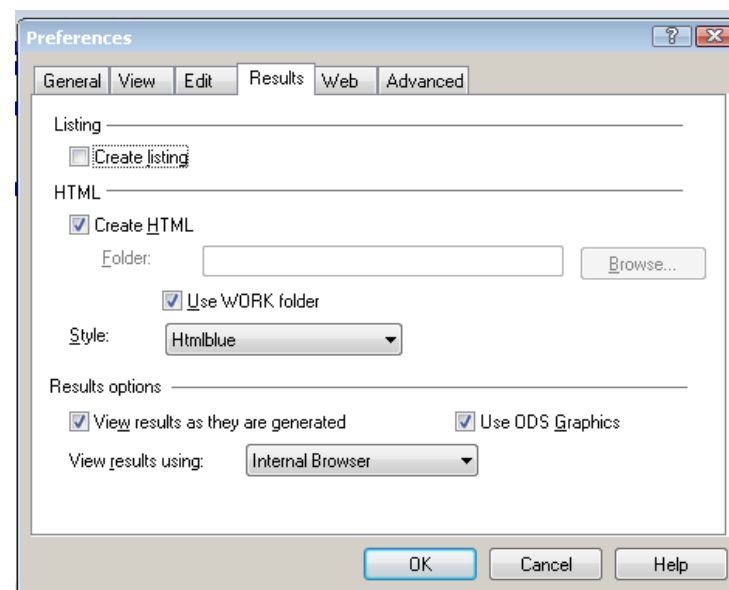
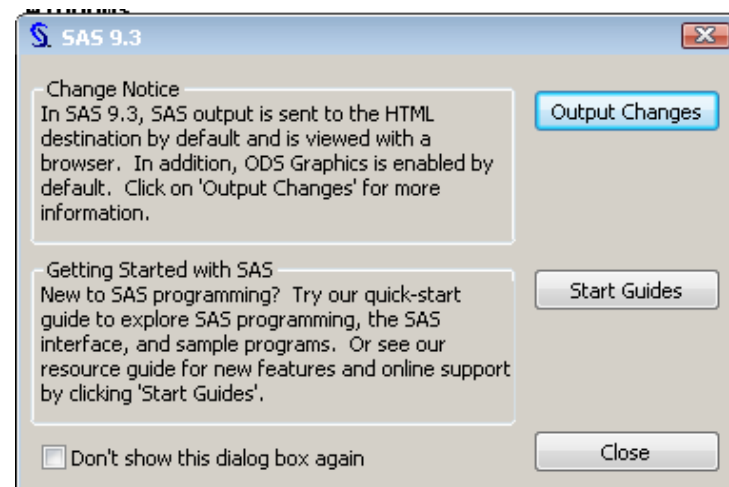
<http://support.sas.com/software/products/gridmgr/index.html>

What's New in Base SAS® 9.3

In SAS 9.3, output in the SAS windowing environment is created by default in HTML. In addition, ODS Graphics is enabled by default.

Graphs are integrated with tables, and all output is displayed in the same HTML file using a new style. This new style, **HTMLBlue**, is an all-color style that is designed to integrate tables and modern statistical graphics.

You can view and modify the default settings by selecting Tools Options Preferences from the menu at the top of the main SAS window.



What's New in Base SAS® 9.3

- The ODS Graphics procedures, formerly called SAS/GRAPH Statistical Graphics procedures, are now available with Base SAS software. SAS/GRAPH software is not required in order to use the procedures.
- Note: The ODS Graphics Designer, ODS Graphics Editor, and Graph Template Language have also moved to Base SAS.

What's New in Base SAS® 9.3

- The ODS Graphics Designer has the following changes and enhancements:
 - inclusion with Base SAS
 - ODS style changes
 - ability to start the designer from the SAS menu bar
 - more options for saving a graph
 - enhanced data assignment options
 - enhanced plot properties

What's New in SAS ODS Graphics Procedures 9.3

<http://support.sas.com/documentation/cdl/en/whatsnew/64209/HTML/default/viewer.htm#grstatprocwhatsnew93.htm>

What's New in Base SAS® 9.3

PROC GROOVY enables SAS code to execute Groovy code on the Java Virtual Machine.

- Groovy statements that are written as part of your SAS code
- Run statements that are in files that you specify with PROC GROOVY commands

(Groovy is an agile and dynamic language for the Java Virtual Machine)

Program

The following example shows how to define a class that can be run by including a `main` method.

```
proc groovy classpath=cp;
  submit;
    class Speaker {
      def Speaker() {
        println "----> ctor"
      }
      def main( args ) {
        println "----> main"
      }
    }
  endsubmit;
quit;
```

GROOVY Procedure

<http://support.sas.com/documentation/cdl/en/proc/63079/HTML/default/viewer.htm#n12njw2j3tuptnn1bmmr0cl857d2.htm>

What's New in Base SAS® 9.3

The following informats are new:

- B8601CIw.
 - (Reads an IBM date and time value that includes a century marker, in the form cyymmddhhmmss<fff>.)

Example

```
input @1 bci b8601ci.;
```

Date and Time	Data Line	Result
	----+----1----+	
January 1, 1900 12:00:00	0000101120000	-1893326400
October 1, 2011 12:15:30.25	111100112153025	1633090530.3

What's New in Base SAS® 9.3

The following informats are new:

- B8601DJw.
 - reads a Java date and time value that is in the form `yyyymmddhhmmssffffff`.

Example

```
input @1 bdj b8601dj.;
```

Date and Time	Data Line	Result
	----+----1----+----	
July 31, 2011 2:33:35 p.m.	20110731142335	1627741415
September 1, 2012 7:30:00.33 a.m.	2012090107300033	1662103800.3

What's New in Base SAS® 9.3

The following informats are new:

- HHMMSSw.
 - reads hours, minutes, and seconds in the form hhmmss or hh:mm:ss.

Example

```
input tm hhmmss.;
```

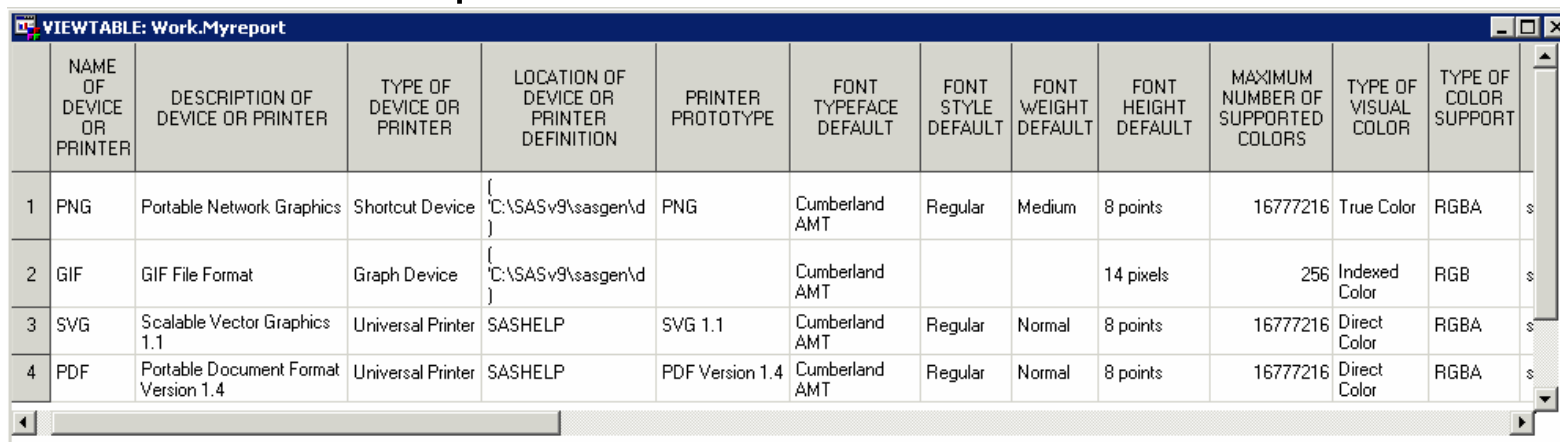
Data Line	Result	Formatted with TIMEw.
23	82800	23:00:00
12:45:44	45344	12:45:44
2358444	851084	236:24:44
17:35	63300	17:35:00

SAS(R) 9.3 Formats and Informats: Reference

<http://support.sas.com/documentation/cdl/en/leforinforref/63324/HTML/default/viewer.htm#p13eggx7qc7l6in1oprinvadzubl.htm>

What's New in Base SAS® 9.3

- PROC QDEVICE summarizes information from graphics devices.
 - Reports about graphics devices and universal printers sent to SAS log or output SAS dataset
 - These reports summarize information, including color support, default output sizes, margin sizes, resolution, supported fonts, hardware symbols, hardware fill types, hardware line styles, and device options.



	NAME OF DEVICE OR PRINTER	DESCRIPTION OF DEVICE OR PRINTER	TYPE OF DEVICE OR PRINTER	LOCATION OF DEVICE OR PRINTER DEFINITION	PRINTER PROTOTYPE	FONT TYPEFACE DEFAULT	FONT STYLE DEFAULT	FONT WEIGHT DEFAULT	FONT HEIGHT DEFAULT	MAXIMUM NUMBER OF SUPPORTED COLORS	TYPE OF VISUAL COLOR	TYPE OF COLOR SUPPORT
1	PNG	Portable Network Graphics	Shortcut Device	{ 'C:\SASv9\sasgen\	PNG	Cumberland AMT	Regular	Medium	8 points	16777216	True Color	RGBA
2	GIF	GIF File Format	Graph Device	{ 'C:\SASv9\sasgen\		Cumberland AMT			14 pixels	256	Indexed Color	RGB
3	SVG	Scalable Vector Graphics 1.1	Universal Printer	SASHELP	SVG 1.1	Cumberland AMT	Regular	Normal	8 points	16777216	Direct Color	RGBA
4	PDF	Portable Document Format Version 1.4	Universal Printer	SASHELP	PDF Version 1.4	Cumberland AMT	Regular	Normal	8 points	16777216	Direct Color	RGBA

Displaying Information with the QDEVICE Procedure

<http://support.sas.com/documentation/cdl/en/graphref/62458/HTML/default/viewer.htm#p0lkj2ykmxdkf3n1hmow53idot6k.htm>

What's New in Base SAS® 9.3

- BI Web Services General Enhancements
 - The SAS BI Web Services for Java engine has been rewritten to use the Spring Framework (<http://static.springsource.org/spring-ws/site/>). This new engine is backwards compatible with SAS 9.2 generated Web services and the XMLA Web service. You can continue to use any existing client proxy code when invoking migrated SAS 9.2 generated Web services and XMLA proxies should continue to work as they did in SAS 9.2.
 - You no longer need to generate Web services using the Deploy as a Web Service wizard in SAS Management Console. As soon as you create a SAS Stored Process, it is available for execution by SAS BI Web Services.
 - SAS BI Web Services for .NET has been discontinued. SAS BI Web Services for Java will support migrated .NET 9.2 generated Web services in a way that is transparent for clients. In fact, clients should need only to change endpoint addresses.

What's New in SAS 9.3 BI Web Services

<http://support.sas.com/documentation/cdl/en/whatsnew/64209/HTML/default/viewer.htm#wbsvcdgwhatsnew93.htm>

What's New in Base SAS® 9.3

- New system processing controls
 - Checkpoint Mode and Restart Mode for Labeled Code Sections. A labeled code section is the SAS code that begins with label: outside of a DATA or PROC step and ends with the RUN statement that precedes the next label: that is outside of a DATA or PROC step.

When checkpoint mode is enabled, SAS records information about DATA and PROC steps or labeled code sections in a checkpoint library. When a batch program terminates prematurely, you can resubmit the program in restart mode to complete execution. In restart mode, global statements are re-executed, macro definitions are recompiled, and macros are re-executed. SAS reads the data in the checkpoint library to determine which steps or labeled code sections completed. Program execution resumes with the step or the label that was executing when the failure occurred.

(sas -sysin 'c:\mysas\mysasprogram.sas' -stepchkpt -steprestart -noworkinit
-noworkterm -errorcheck strict -errorabend -chkptclean)

```
readSortData:
data mylib.mydata;
...more sas code...
run;

proc sort data=mylib.mydata;
...more sas code...
run;

report:
proc report data=mylib.mydata;
...more sas code...
run;
endReadSortReport:
```

Overview of Syntax Check Mode

<http://support.sas.com/documentation/cdl/en/lrcon/62753/HTML/default/viewer.htm#n1nzmsupywf45qn1m6j1eczg1cb4.htm>

What's New in Base SAS® 9.3

- New DLCREATEDIR system option will create a directory for the SAS library named in the LIBNAME statement if it doesn't already exist

```
1  options NODLCREATEDIR;
2
3  libname test 'c:\\test' ;
NOTE: Library TEST does not exist.
```

```
4  options DLCREATEDIR;
5
6  libname test 'c:\\test' ;
NOTE: Library TEST was created.
NOTE: Libref TEST was successfully assigned as follows:
      Engine:          V9
      Physical Name: c:\\test
```

DLCREATEDIR System Option

<http://support.sas.com/documentation/cdl/en/hosto390/63083/HTML/default/viewer.htm#n1jrsjpog0knqrn116y9hzjg01j5.htm>

What's New in SAS/STAT® 9.3

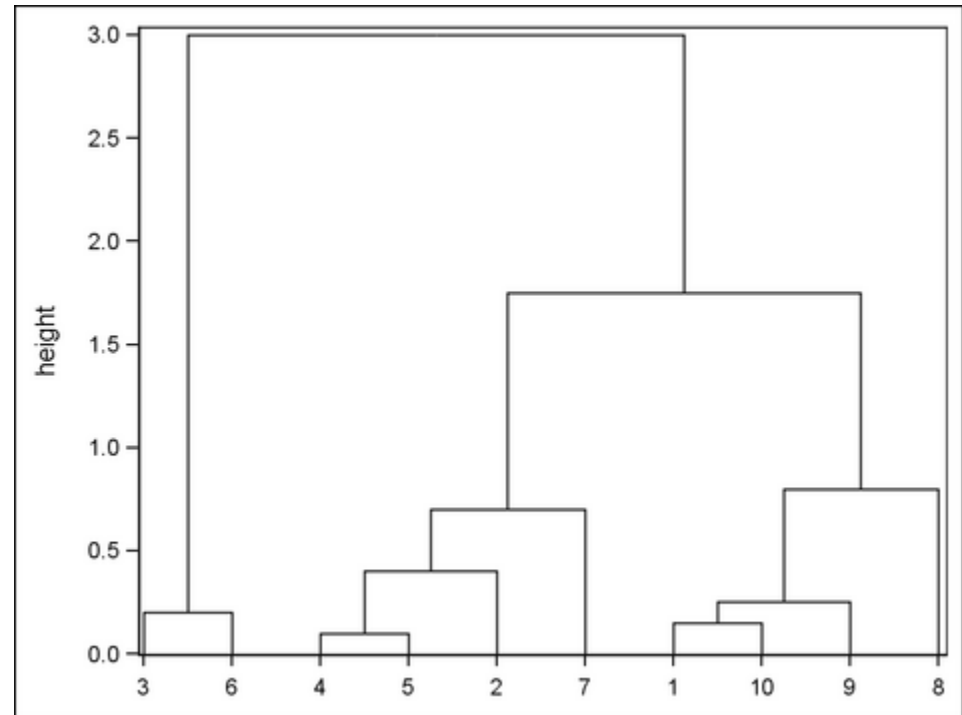
Examples of New Statistical Graphics

■ Dendrogram

```
data clustree;  
  input id $ parent $7-12 height nClus;  
  label id="Cluster ID" parent="Parent ID";  
  datalines;  
clus1      3 1  
clus2 clus1 0.2 7  
...  
run
```

```
proc template;  
  define statgraph dendrogram;  
    begingraph;  
      layout overlay;  
        dendrogram nodeID=id parentID=parent  
        clusterheight=height;  
      endlayout;  
    endgraph;  
  end;  
run;
```

```
proc sgrender data=clustree template=dendrogram;  
run;
```



SAS(R) 9.3 Graph Template Language: Reference

<http://support.sas.com/documentation/cdl/en/grstatgraph/62988/HTML/default/viewer.htm#p0w7jrkptjzbwn10ljtl26t7740.htm>

What's New in SAS/STAT® 9.3

Examples of New Statistical Graphics

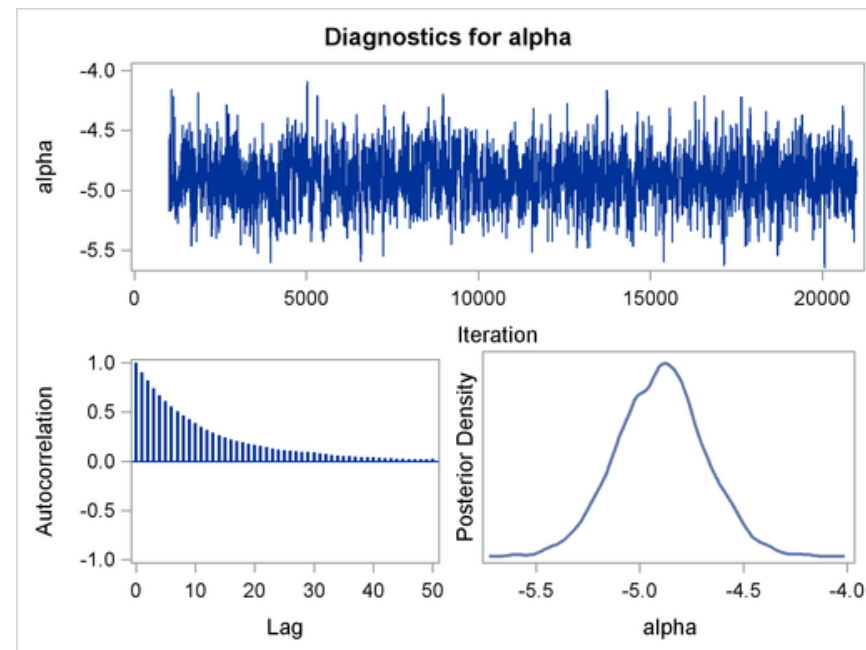
- PROC MCMC is unlike most other SAS/STAT procedures in that the nature of the statistical inference is Bayesian.

Note that you can also carry out a Bayesian analysis with the GENMOD, PHREG, and LIFEREG procedures for generalized linear models, accelerated life failure models, Cox regression models,

```
proc mcmc data=calls outpost=callout
  seed=53197 ntu=1000 nmc=20000
  propcov=quanew;
  ods select TADpanel;
  parms alpha -4 beta 1 gamma 2;
  prior gamma ~ gamma(3.5, scale=12);
  prior alpha ~ normal(-5, sd=0.25);
  prior beta ~ normal(0.75, sd=0.5);
  lambda = gamma*logistic(alpha+beta*weeks);
  model calls ~ poisson(lambda);
run;
```

PROC MCMC Procedure

http://support.sas.com/documentation/cdl/en/statug/63962/HTML/default/viewer.htm#statug_mcmc_sect047.htm



What's New in SAS/MACRO® 9.3

- %SYSMACEXEC
 - indicates whether a macro is currently executing.

```
%IF %SYSMACEXEC(Two)=1 %THEN %PUT Macro Two is Executing;  
%ELSE %PUT Macro Two Not Executing;
```

SYSMACEXEC

<http://support.sas.com/documentation/cdl/en/mcrolref/62978/HTML/default/viewer.htm#p0g868ww40yr4jn1l0wxst5fi796.htm>

What's New in SAS/MACRO® 9.3

- %SYSMACEXIST
 - indicates whether there is a macro definition in the WORK.SASMACR catalog.

```
%IF %SYSMACEXIST(Two)=1 %Then %PUT Macro Two Exists;  
%ELSE %PUT Macro Two Does Not Exist;
```

SYSMACEXIST

<http://support.sas.com/documentation/cdl/en/mcrolref/62978/HTML/default/viewer.htm#n1mm3jwlbolg00n1b7w7aiybuch8.htm>

What's New in SAS/MACRO® 9.3

- %SYSMECDEPTH
 - returns the depth of nesting from the point of call.

%PUT Nesting Path Is : %SYSMECDEPTH;

Nesting Path Is :1

SYSMECDEPTH

<http://support.sas.com/documentation/cdl/en/macroref/62978/HTML/default/viewer.htm#n19g3xotkajctbn1tufj4pce6n3d.htm>

What's New in SAS/MACRO® 9.3

- %SYSMEEXECNAME
 - returns the name of the macro executing at a nesting level.

%PUT Now Executing at current Nesting Level: %sysmexecname(%sysmexecdepth);
%PUT Now Executing at Nesting Level 1 : %sysmexecname(1);
%PUT Now Executing at Nesting Level 2: %sysmexecname(2);

Now Executing at current Nesting Level:TWO
Now Executing at Nesting Level 1 :ONE
Now Executing at Nesting Level 2:TWO

SYSMACEXECNAME

<http://support.sas.com/documentation/cdl/en/mcrolref/62978/HTML/default/viewer.htm#n19g1rkeq1al87n1djihoec4oxp.htm>

SAS 9.3 Information

- <http://support.sas.com/documentation/93/index.html>
- <http://support.sas.com/software/>
- Your Local Helpdesk

Thank you for your interest !

Daniel Christen

Client Manager, SAS
daniel.christen@sch.sas.com

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What's New in ODS Graphics 9.3

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What's New in ODS Graphics 9.3

Executive Summary

- New and enhanced statements for Graph Template Language (GTL)
 - Extend the versatility of the language and introduce a number of new plot types.
- SAS Graph Template Language is now also part of Base SAS Software
- Used to write your own Graph Templates (PROC TEMPLATE)

About the Graph Template Language

<http://support.sas.com/documentation/cdl/en/grsggs/64568/HTML/default/viewer.htm#n06ck1r1592v6jn1efxfrte4t7cu.htm>

What's New in ODS Graphics 9.3

- The HTML, PDF, PCL, and LISTING destinations now support Scalable Vector Graphics (SVG)
 - In EMF, PDF, SVG, PS, and PCL formats.

Using Scalable Vector Graphics

<http://support.sas.com/documentation/cdl/en/graphref/62458/HTML/default/viewer.htm#p0xihdym5qw48nn1w72h25g84y6c.htm>

What's New in ODS Graphics 9.3

Executive Summary

- Replay SGE (ODS Graphics Editor) files through PROC SGRENDER.
 - The ODS Graphics Editor is a point-and-click interface that you can use to modify a specific graph created by ODS Graphics. For example, if you need to enhance a graph for a paper or presentation, you can use the ODS Graphics Editor to customize the title, modify the axis labels, annotate particular data points, and change graph element properties such as fonts, colors, and line styles.

```
ods graphics on;  
ods html style=Statistical sge=on;
```

ODS Graphics Editor in SAS 9.3

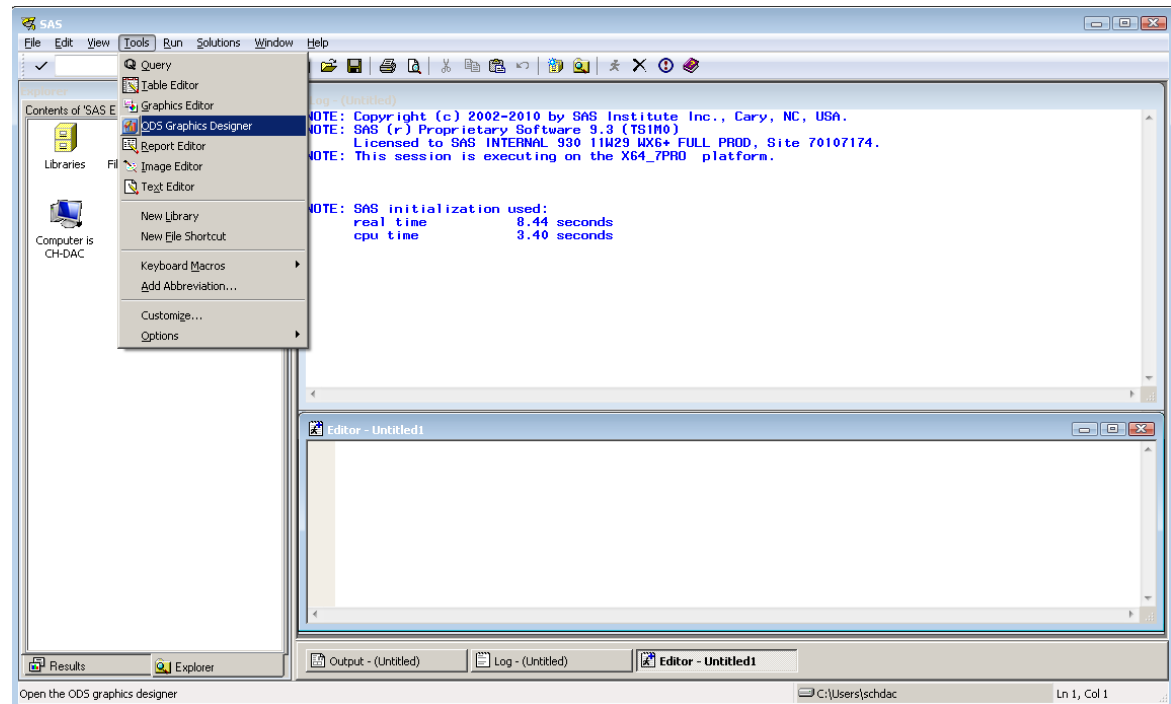
http://support.sas.com/documentation/cdl/en/statug/63962/HTML/default/viewer.htm#statug_odsgraph_sect039.htm

SGRENDER Statement in SAS 9.3

<http://support.sas.com/documentation/cdl/en/grstatproc/62920/HTML/default/viewer.htm#n194gmpu73h4t5n1vavyo656yj71.htm>

What's New in ODS Graphics 9.3

- SAS ODS Graphics Designer now available in the SAS Pull-Down Menu
- %sgdesign;



About the SAS ODS Graphics Designer in SAS 9.3

<http://support.sas.com/documentation/cdl/en/grstatdesignug/63226/HTML/default/viewer.htm#about.htm>

What's New in ODS Graphics 9.3

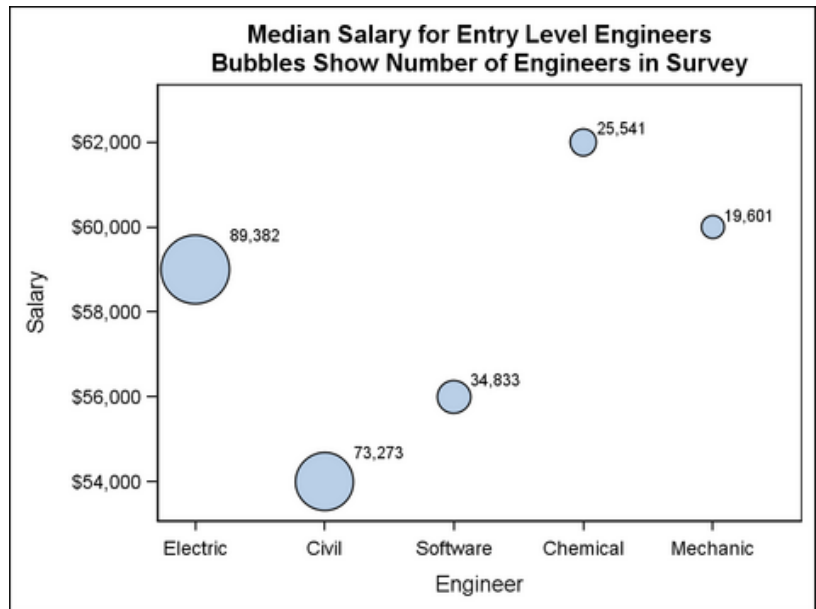
- New GTL (Graph Template Language) statement (BUBBLEPLOT)
 - Creates a bubble plot of the input data. The locations of the bubble centers correspond to the values of X and Y variables in the data, and the bubble radii correspond to the values of a SIZE variable.

```
proc template;  
define statgraph engineer;  
...
```

```
bubbleplot x=engineer y=salary  
size=number / datalabel=number;  
endlayout; endgraph;  
end;
```

BUBBLEPLOT Statement

<http://support.sas.com/documentation/cdl/en/grstatgraph/62988/HTML/default/viewer.htm#n18f1xdklwt11un0z33g2typlvg5.htm>



What's New in ODS Graphics 9.3

- New SGPLOT procedure statements (BUBBLE)
 - Produces filled or empty bubble plots.

```
proc SGPLOT;
```

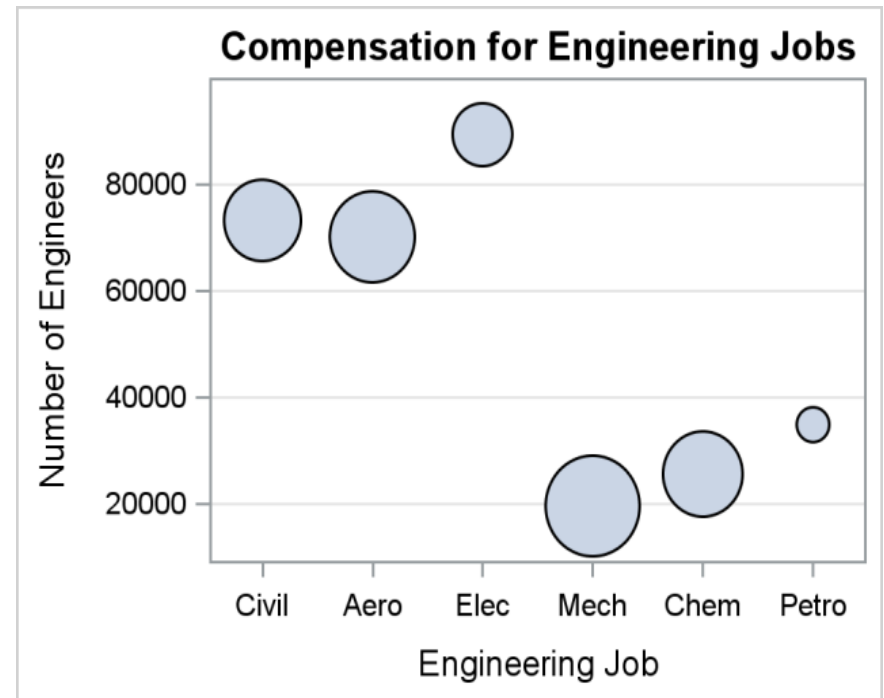
```
...
```

```
BUBBLE X= variable Y= variable
```

```
SIZE= numeric-variable </ option(s)>;
```

SGPLOT 9.3

<http://support.sas.com/documentation/cdl/en/grstatproc/62920/HTML/default/viewer.htm#n0yjdd910dh59zn1toodgupaj4v9.htm>



What's New in ODS Graphics 9.3

- New SG PANEL procedure statements (BUBBLE)
 - Produces filled or empty bubble plots.

proc SG PANEL;

...

BUBBLE X= variable Y= variable

SIZE= numeric-variable </ option(s)>;

[BRADIUSMAX= numeric-value](#)

specifies the size of the radius of the largest bubble.

[BRADIUSMIN= numeric-value](#)

specifies the size of the radius of the smallest bubble.

[FILL | NOFILL](#)

specifies whether the bubbles are filled.

[FILLATTRS= style-element | \(COLOR= color\)](#)

specifies the appearance of the fill for the bubbles.

[LINEATTRS= style-element <\(options\)> | \(options\)](#)

specifies the appearance of the outlines for the bubbles.

[OUTLINE | NOOUTLINE](#)

specifies whether the outlines of the bubbles are visible.

SG PANEL 9.3

<http://support.sas.com/documentation/cdl/en/grstatproc/62920/HTML/default/viewer.htm#n0zgx9a7en0g5vn1tjpja6sxdiwr-508.htm>

What's New in ODS Graphics 9.3

- HBARPARM / VBARPARM
 - New SGPLOT and SGPANEL procedure statements
 - Produces bar charts from pre-summarized data. These statements also enable you to display pre-computed limits on the bar chart.

```
proc SGPLOT;
```

```
...
```

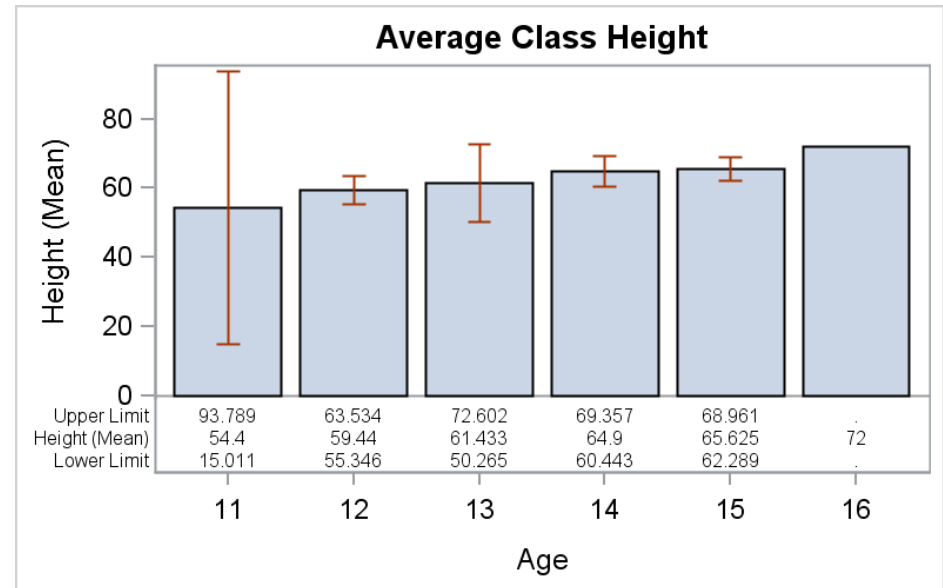
```
HBARPARM
```

```
CATEGORY= category-variable
```

```
RESPONSE= numeric-variable
```

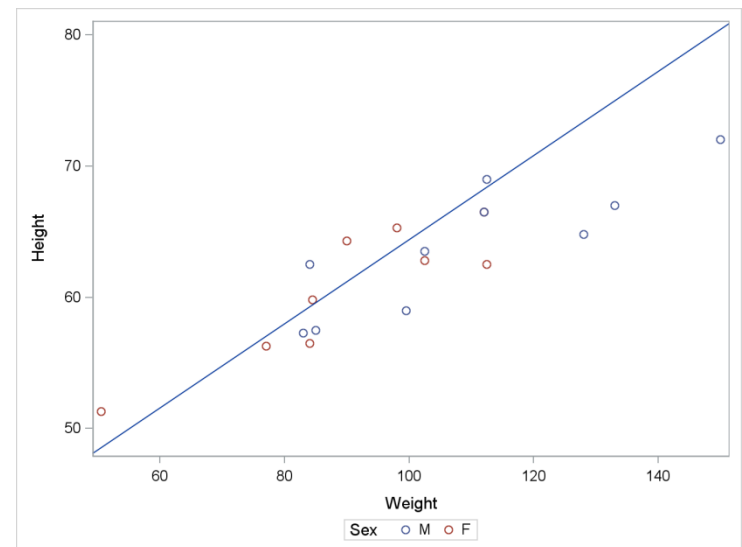
```
</ option(s)>;
```

Support for positioning the data labels of VBARs, VBARPARMs, and VLINEs above or below the chart.



What's New in ODS Graphics 9.3

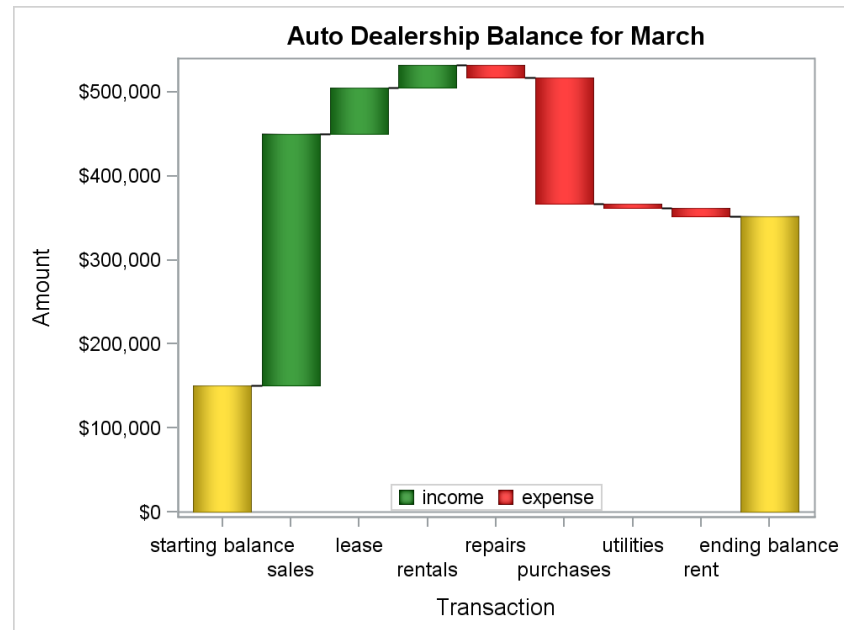
- LINEPARM
- New SGPLOT and SGPANEL procedure statements
 - Creates a straight line specified by a point and a slope.
 - Generate a single line by specifying a constant for each required argument.
 - Create multiple lines by specifying a numeric variable for any or all required arguments.



What's New in ODS Graphics 9.3

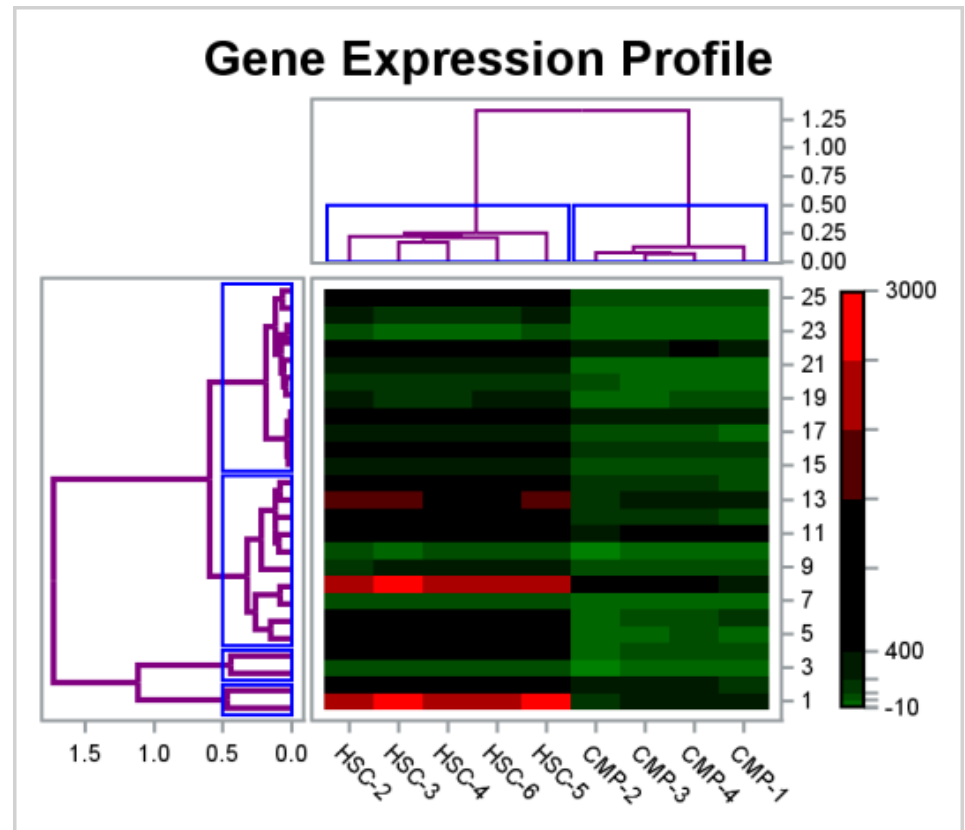
- WATERFALL and WATERFALLCHART
 - WATERFALL new statement for PROC SGPLOT.
 - WATERFALLCHART new GTL statement.
 - Produces a “delta” bar chart, typically used to show transaction data.

New support for attribute maps which give you the ability to assign visual attributes to specific group values



What's New in ODS Graphics 9.3

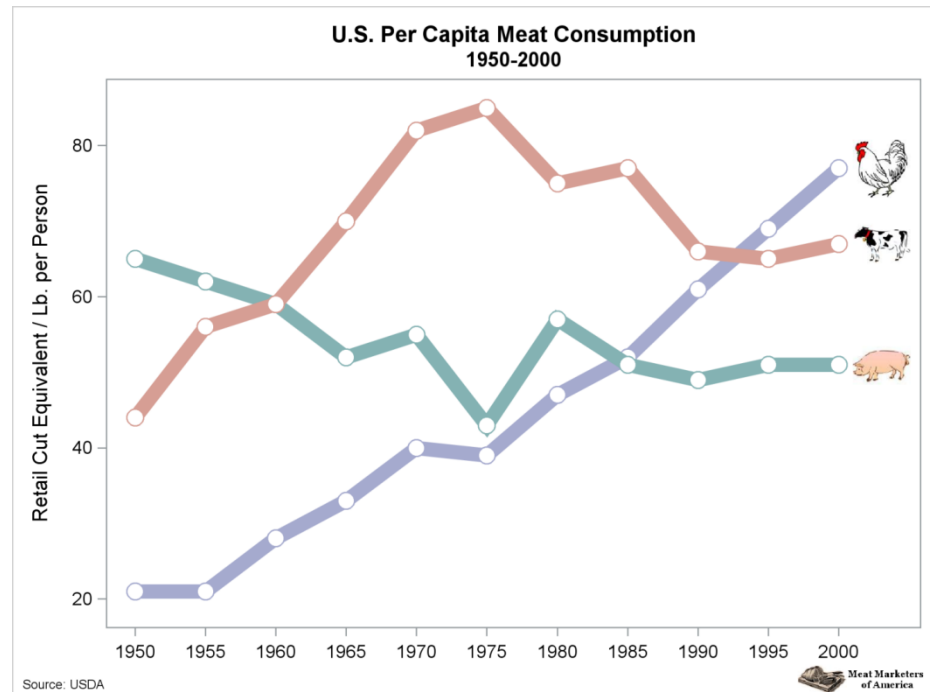
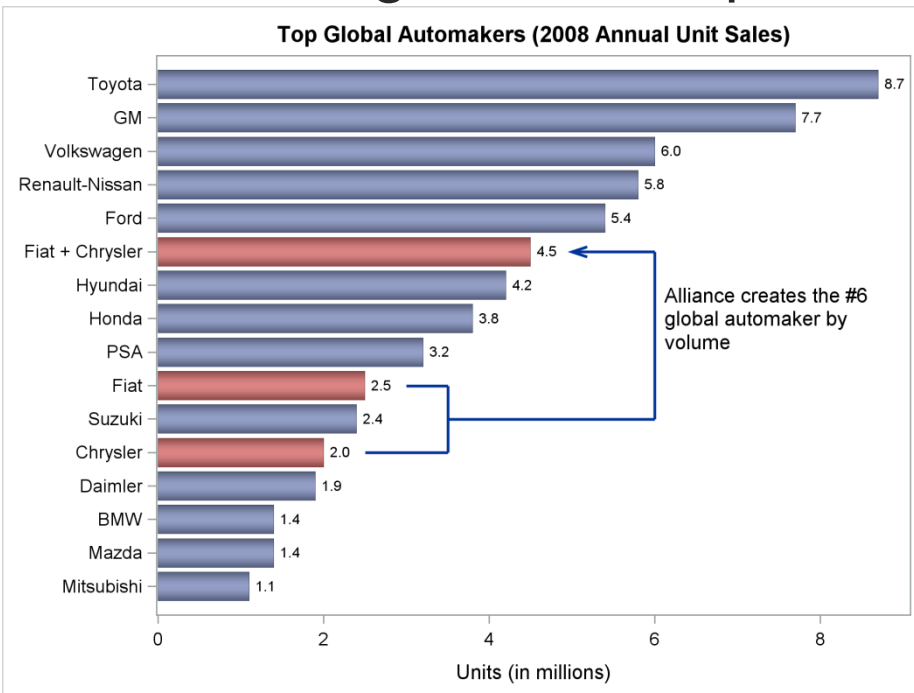
- DENDROGRAM
 - New GTL statement
 - Visualize hierarchical cluster analysis
 - Increases understanding of relationships amongst the data



Heatmap with Dendrograms

What's New in ODS Graphics 9.3

- Annotation
- The SG procedures now support annotation data sets
- The new dataset annotation definition is redefined to leverage ODS Graphics capabilities.



SAS® 9.3 Documentation

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