

Proceedings of The 15th Annual South-Central SAS Users Group Regional Conference

Held at the Omni Hotel in San Antonio, Texas
October 16-18, 2005



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Kenneth Bissett

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Table of Contents

Conference Schedules	5
Abstracts of Papers to be Presented	9
Contributed Papers:	
Don Boudreaux “Parsing HTML Tags in SAS Using Perl Regular Expressions”	17
Allen Bryson, Kevin Kindall, and Xianqiao Chen “Basis Risk Quantification Using SAS®”	21
Deborah Babcock Buck “Summarizing Data with Base SAS® PROCs”	39
Billy Clifford “Frequently Asked Questions about SAS® Indexes”	50
Ronald Cody “An Introduction to SAS® Character Functions (Including Some New SAS®9 Functions)”	61
Keith Cranford “New Functions in SAS® 9 – A Sampling”	76
Keith Cranford “Under the Covers of PROC REPORT”	90
Kevin Davidson “SAS ETL Studio: An Introduction to the Version 9 Data Warehousing solution”	98
Kevin Davidson “Stored Processes: How to build, how to run, and why they are useful.”	108
Jimmy DeFoor “Proc SQL – A Primer for SAS Programmers”	124
Vincent DelGobbo “Moving Data and Analytical Results between SAS® and Microsoft Office”	141
Minh Duong and Kevin Davidson “Editing data sets via the web using SAS/IntrNet or SAS AppDev Studio in Version 9”	161
Alexander M. Feigin “ID statement in Proc Transpose: why, how and when we have to use it” [POSTER]	169
Malachy J. Foley “Preemptive DATA CLEANING: Techniques”	175

Malachy J. Foley	
“MERGING vs. JOINING: Comparing the DATA Step with SQL”	184
Rebecca Frederick, E. Barry Moser, Greg Linscombe and Mike Olinde	
“ODS Output of Proc SurveyMeans for a Bobcat Hunter Survey”	201
Clarence Wm. Jackson	
“Maintaining Inherited SAS Code”	219
Faron Kincheloe	
“The Match Game”	228
Faron Kincheloe	
“Sleepless in Seattle (or Wherever) – Resolving Issues in Scheduled Jobs”	236
Faron Kincheloe	
“While You Were Sleeping - Scheduling SAS® Jobs to Run Automatically”	242
Kirk Paul Lafler	
“Exploring DICTIONARY Tables and SASHELP Views”	247
Kirk Paul Lafler	
“Exploring SAS® Generation Data Sets”	253
Judy Loren, Sandeep Gaudana	
“Join, Merge or Lookup? Expanding your toolkit “	260
Pablo J. Noguerras	
“MP CONNECT: Warp Engine for SAS (Multi-Processing in the Sun Solaris Environment)”	275
Phil Rhodes	
“Automating the Drudgery Away: Using Macros and ODS to Produce (Almost) Complete Reports”	289
M.P. Beccar Varela, M. Ferraro, S. Jaroszewicz, M.C. Mariani	
“Truncated Levy walks applied to the study of the behavior of Market Indices”	294
Christine L. Warner	
“Duplicate Payments and Duplicate Vendors: How to Identify All of Them”	306
Marsha Weston	
“Nesting SAS Macros “	320
Thomas J. Winn, Jr.	
“State Agency Personnel Information Reports: a SAS/IntrNet® Project”	343
Shenglin Zheng, Johnny Dupree, Uttam Shah, Marc Torres	
“Techniques And Methods To Implement Neural Networks Using SAS and .NET”	371
Announcement & Call for Papers SCSUG 2006	381

2005 South Central Regional SAS Users' Conference
Omni Hotel, San Antonio, Texas
October 16-18, 2005

Sunday, October 16

8:00 – 12:00 noon	Pre-Conference Training <i>Kirk Lafler</i> <i>Mal Foley</i>	Conference Center A (2nd floor) Conference Center B (2nd floor)
1:00 – 5:00 p.m.	Pre-Conference Training <i>Kirk Lafler</i> <i>Mal Foley</i>	Conference Center A (2nd floor) Conference Center B (2nd floor)
6:00 – 7:30 p.m.	Early Registration, Reception	Foyer

Monday, October 17

7:00 – 8:00 a.m.	Registration, Continental Breakfast	Foyer
8:00 – 8:50 a.m.	Opening Session & Keynote	Grand Ballroom ABC
9:00 – 9:50 a.m.	Hands on Workshops	Conference Center B (2nd floor)
9:00 – 11:50 a.m.	SAS Seminar	Conference Center A (2nd floor)
9:00 – 9:50 a.m.	Concurrent Sessions <i>Data Mgmt and Reporting</i> <i>Tutorials and General Interest</i>	Grand Ballroom ABC Grand Ballroom D
9:50 – 10:00 a.m.	Break	
10:00 – 11:50 a.m.	Hands on workshops	Conference Center B (2nd floor)
10:00 – 11:50 a.m.	Concurrent Sessions <i>Data Mgmt and Reporting</i> <i>Tutorials and General Interest</i>	Grand Ballroom ABC Grand Ballroom D
12:00 – 1:00 p.m.	Luncheon	
1:00 – 2:50 a.m.	Hands on Workshops	Conference Center B (2nd floor)
1:00 – 4:00 p.m.	SAS Seminar	Conference Center A (2nd floor)
1:00 – 2:50 p.m.	Concurrent Sessions <i>Data Mgmt and Reporting</i> <i>Tutorials and General Interest</i>	Grand Ballroom ABC Grand Ballroom D
2:50 – 3:20 p.m.	Refreshment Break	
3:20 – 5:10 a.m.	Hands on Workshops	Conference Center B (2nd floor)
3:20 – 5:10 p.m.	Concurrent Sessions <i>Data Mgmt and Reporting</i> <i>Tutorials and General Interest</i>	Grand Ballroom ABC Grand Ballroom D
5:10 – 6:30 p.m.	Mixer	SAS Demo Room

SAS Demo Area – Exhibit Area
9:00 a.m. – 1:00 p.m.
3:00 – 6:30 p.m. (Mixer 5:10 – 6:30)

2005 South Central Regional SAS Users' Conference
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Tuesday, October 18

7:00 – 8:00 a.m.	Registration, Continental Breakfast	Foyer
8:00 – 9:50 a.m.	Hands on workshops	Conference Center B (2nd floor)
8:00 – 9:50 a.m.	Concurrent Sessions	
	<i>Data Mgmt and Reporting</i>	Grand Ballroom ABC
	<i>Tutorials and General Interest</i>	Grand Ballroom D
	<i>Application Development</i>	Conference Center A (2nd floor)
9:50 – 10:00 a.m.	Break	
10:00 – 1150 a.m.	Concurrent Sessions	
	<i>Data Mgmt and Reporting</i>	Grand Ballroom ABC
	<i>Tutorials and General Interest</i>	Grand Ballroom D
	<i>Application Development</i>	Conference Center A (2nd floor)
	<i>Application Development</i>	Conference Center B (2nd floor)
12:00 – 1:00 p.m.	Luncheon	
1:00 – 2:50 p.m.	Concurrent Sessions	
	<i>Data Mgmt and Reporting</i>	Grand Ballroom ABC
	<i>Tutorials and General Interest</i>	Grand Ballroom D
	<i>Application Development</i>	Conference Center A (2nd floor)
	<i>Application Development</i>	Conference Center B (2nd floor)
3:00 – 4:00 p.m.	Closing Session	Grand Ballroom ABC

SAS Demo Area – Exhibit Area
9:00 a.m. – 12:00 noon

**2005 South-Central Regional SAS Users Group Conference, Omni Hotel,
San Antonio, Texas**

Schedule of Events for Monday, October 17

<i>Monday</i>	Grand Ballroom A-B-C	Grand Ballroom D	Conference Center A	Conference Center B
	<i>Data Management and Reporting</i>	<i>Tutorials and General Interest</i>	<i>SAS Seminars</i>	<i>Hands on Workshops</i>
7:00-8:00 a.m.	Check-In, Late Registration, and Continental Breakfast			
8:00-8:50 a.m.	Opening Session, Keynote Presentation: David Shamlin - Above and Beyond with Base SAS			
9:00-9:50 a.m.	Vince DelGobbo - Moving Data and Analytical Results between SAS and Microsoft Office	Kevin D. Smith - ODS Document and PROC DOCUMENT	Theresa Lautato - Intro to ODS Markup	Dana Rafiee , Destiny Corporation. Tabulate Basics: Why My Brain Doesn't Work That Way
9:50-10:00 a.m.	Break	Break		Break
10:00-10:50 a.m.	Judy Loren, Sandeep Gaudana - Join, Merge or Lookup? Expanding your toolkit	Christy Warner - Duplicate Payments and Duplicate Vendors: How to Identify All of Them		Dana Rafiee , Destiny Corporation. Add-In for Microsoft Office: Get Those Users Off My Back!
11:00-11:50 a.m.	Ron Cody - An introduction to SAS Character Functions (Including some new V9 functions)	Mal Foley - Preemptive DATA CLEANING: Techniques		
12:00-1:00 p.m.	Lunch, Roundtable Discussions			
1:00-1:50 p.m.	Pable J. Nogueras - MP CONNECT: Warp Engine for SAS (Multi- Processing in the Sun Solaris Environment)	Don Boudreaux - Parsing HTML Tags in SAS Using Perl Regular Expressions	Theresa Lautato - Introduction the the SAS XML Libname Engine	Dana Rafiee , Destiny Corporation. Enterprise Guide: Why Use It?
2:00-2:50 p.m.	Mal Foley - MERGING vs. JOINING: Comparing the DATA Step with SQL	Kirk Paul Lafler - Exploring SAS Generation Data Sets		
2:50-3:20 p.m.	Break	Break		Break
3:20-4:10 p.m.	Danny Hamrick - SAS Management Console - How can SASMC help me?	Keith Cranford - New Functions in SAS 9 - A Sampling		Dana Rafiee , Destiny Corporation. ODS Basics: Let's Understand How to Write ODS Code
4:20-5:10 p.m.	Jimmy DeFoor - Proc SQL - A Primer for SAS Programmers	Kevin Davidson, Minh Duong - Editing Data Sets via the Web Using SAS/IntrNet or SAS Appdev Studio in Version 9		
5:10-6:30 p.m.	Mixer - SAS Demo Room (La Joya Ballroom)			

**2005 South-Central Regional SAS Users Group Conference, Omni Hotel,
San Antonio, Texas
Schedule of Events for Tuesday, October 18**

<i>Tuesday</i>	Grand Ballroom A-B-C	Grand Ballroom D	Conference Center A	Conference Center B
	<i>Data Management and Reporting</i>	<i>Tutorials and General Interest</i>	<i>SAS Seminars</i>	<i>Hands on Workshops</i>
7:00-8:00 a.m.	Check-In, Late Registration, and Continental Breakfast			
8:00-8:50 a.m.	Chris Hemedinger - Efficient Data Access using SAS Enterprise Guide: Best Practices	Kevin Davidson - SAS ETL Studio: An Introduction to the Version 9 Data Warehousing Solution	Faron Kincheloe - While You Were Sleeping	Dana Rafiee , Destiny Corporation. Macro Basics: Show Me How to Code Less
9:00-9:50 a.m.	Manoj Chari, Ken W. Player - Marketing Decision-Making with SAS Marketing Optimization	Billy Clifford - Frequently Asked Questions About SAS Indexes	Faron Kincheloe - Sleepless in Seattle (or Wherever)	
9:50-10:00 a.m.	<i>Break</i>	<i>Break</i>		<i>Break</i>
10:00-10:50 a.m.	Phil Rhodes - Automating the Drudgery Away: Using Macros and ODS to Produce (Almost) Complete Reports	Clarence Jackson - Maintaining Inherited SAS Code	Kevin Davidson - Stored Processes: How to build, how to run, and why they are useful	
11:00-11:50 a.m.	Keith Cranford - Under the Covers of PROC REPORT	Kirk Paul Lafler - Exploring Dictionary Tables and SASHELP Views	Maria Pia Beccar Varela, Maria Cristina Mariani - Truncated Levy walks applied to the study of the behavior of Major Market Indices	Allen Bryson, Kevin Kindall, Xianqiao Chen - Basis Risk Quantification Using SAS
12:00-1:00 p.m.	Lunch, Roundtable Discussions			
1:00-1:50 p.m.	Debbie Buck - Summarizing Data with Base SAS PROCS	Marsha Weston - Nesting SAS Macros		Rebecca Frederick - Bobcat Fox Coyote Survey Report
2:00-2:50 p.m.	Chris Zheng, Marc Torres - Techniques and Methods to Implement Neural Networks Using SAS and .NET	Tom Winn - State Agency Personnel Information Reports: a SAS IntrNet Project		Faron Kincheloe - The Match Game
3:00-4:00 p.m.	<i>Closing Session - Grand Ballroom A-B-C</i>			

Abstracts of Scheduled Presentations at the 2005 South-Central SAS Users' Group Conference

“Parsing HTML Tags in SAS Using Perl Regular Expressions”

Don Boudreaux, PhD, SAS Institute Inc., Austin, TX

One of the many new features offered by SAS®9 is the ability to use Perl Regular Expressions to manipulate text. This investigation considers the use of Perl Regular Expressions to parse attribute data out of HTML tags. The expression used is sequentially defined and presented to the reader in order to introduce some of the functionality of Perl Regular Expressions. The new SAS®9 functions needed to process the resulting expression are also discussed. In addition, the example compares the Perl Regular Expression approach with an alternative approach using traditional character functions.

“Basis Risk Quantification Using SAS®”

Allen Bryson, Kevin Kindall, and Xianqiao Chen

The natural gas industry continues to be a dynamic industry. With recent high prices and the renewed interest in LNG, the business activity within the industry is expected to continue undiminished for some time to come. Clearly, understanding risk is important to decision makers. Although there are many risks to consider, basis risk is one of the primary risks embedded in many natural gas portfolios. While many of the standard Value at Risk models do not explicitly model basis risk, we show how to model basis risk directly, and develop a SAS-based Monte Carlo process to estimate exposure metrics. This paper is divided into three sections: an extended introduction and overview of the gas market, mathematical background and risk measures, and a SAS-based solution.

“Summarizing Data with Base SAS® PROCs”

Deborah Babcock Buck, D. B. & P. Associates, Houston, TX

Base SAS provides a number of procedures designed to aid the SAS user in developing data summary reports. These procedures include MEANS, UNIVARIATE, FREQ, REPORT and TABULATE. Additionally, PROC FORMAT is also available to modify the appearance of data values or combine values into desired categories within PROCs without changing actual data values or creating new variables.

This presentation explores various common types of summary reports and what factors you should consider in deciding which procedure is best suited to your reporting needs. It is not meant to be a detailed tutorial on PROC step programming code for all of these procedures, but rather a guide on how to decide which procedures fit the requirements for a given report.

Summary reports generated using Base SAS PROCs are presented along with the code producing these reports. These examples are valid with SAS Versions 6-9.

“Frequently Asked Questions about SAS® Indexes”

Billy Clifford, SAS Institute, Inc., Cary, NC

Indexes in the BASE engine have been part of Base SAS since SAS 6. Over the years the use and mis-use of indexes has generated a number of questions from users. The answers to these questions might help you understand more about indexes and how they interact with other SAS components. This paper begins with an overview of index technology used by the BASE engine and how SAS uses these indexes. Then, a set of Frequently Asked Questions (FAQs) collected from customers, in-house users, and Tech Support is answered, along with the rationale for the answer.

“An Introduction to SAS® Character Functions (Including Some New SAS®9 Functions)”

Ronald Cody, Ed.D.

SAS® software is especially rich in its assortment of functions that deal with character data. This class of functions is sometimes called STRING functions. With over 30 new character functions in Version 9, the power of SAS to manipulate character data is even more impressive.

Some of the functions we will discuss are: LENGTH, SUBSTR, COMPBL, COMPRESS, VERIFY, INPUT, PUT, TRANWRD, SCAN, TRIM, UPCASE, LOWCASE, || (concatenation), INDEX, INDEXC, AND SPEDIS. Some of the new and exciting Version 9 functions that we will cover are the "ANY" and "NOT" functions, the concatenation functions (and call routines), COMPARE, INDEXW, LENGTHC, PROPCASE, STRIP, COUNT, and COUNTC.

“New Functions in SAS® 9 – A Sampling”

Keith Cranford, Office of the Attorney General of Texas, Child Support Division

SAS 9 provides many new functions, including many new character functions, a few new descriptive statistics functions, and many other miscellaneous functions. This paper gives an overview for many of these functions, including syntax and examples.

“Under the Covers of PROC REPORT”

Keith Cranford, Office of the Attorney General of Texas, Child Support Division

How does PROC REPORT really work? This paper attempts to answer this question by examining how PROC REPORT processes your data to produce a report. PROC REPORT works similarly to the DATA step, but with some important differences. Both listing and summary reports are used to illustrate these similarities and differences. It is hoped that this understanding will provide new insights into how to use PROC REPORT to its fullest.

“Stored Processes: How to build, how to run, and why they are useful.”

Kevin Davidson, FSD Data Services, Inc.

SAS Stored Processes (SP) are a new feature in SAS Version 9 (a very limited version was introduced in Version 8). SP's provide the ability for a group of people to share and run code even if a number of the users do not know SAS at all. SP's also provide a valuable method of ensuring that end-users are running the same version of SAS code. Another key feature of SP's is the ability to easily pass parameters to your code using a user friendly interface utilizing drop down lists, text boxes, etc. This paper will demonstrate the features and options available in choosing how to build and run stored processes. Software demonstrated will include SAS Enterprise Guide (EG), simple HTML created by the SP wizard, and the SAS Add-In for Microsoft Office.

“SAS ETL Studio: An Introduction to the Version 9 Data Warehousing solution”

Kevin Davidson, FSD Data Services, Inc.

SAS ETL Studio was introduced in Version 9 and replaces SAS/Warehouse Administrator. This paper will provide a broad overview of the software with an emphasis on how the Extract-Transform-Load (ETL) features work. A sample 'job' will be built to demonstrate the capabilities and an overview of how ETL Studio communicates with SAS sessions to perform the job processing will be discussed.

“Proc SQL – A Primer for SAS Programmers”

Jimmy DeFoor, Benbrook, Texas

The Structured Query Language (SQL) has a very different syntax and, often, a very different method of creating the desired results than the SAS Data Step and the SAS procedures. Only a very thorough manual, such as the SAS Guide to the Proc SQL Procedure, could even begin to describe the complete syntax and capabilities of Proc SQL. Still, there is value in presenting some of the simpler capabilities of Proc SQL,

especially those that are more efficient or easier to code than the SAS Data Step. The reasons:

1. The tables created by Proc SQL can be read by the SAS Data Step or SAS procedures, so the SAS programmer can choose to use only some SQL code without impacting the rest of his or her SAS code.
2. Understanding Proc SQL can aid the programmer in understanding other SQL code, such as DB2 and Oracle.

“Moving Data and Analytical Results between SAS® and Microsoft Office”

Vincent DelGobbo, SAS Institute Inc., Cary, NC

Transferring data between SAS and Microsoft Office can be difficult, especially when SAS is not installed on a Windows platform. This paper discusses using the HTML and XML support in Base SAS software to move data between SAS and Microsoft Office (versions 2002 and later). You can use the techniques described here regardless of the platform on which SAS software is installed.

“Editing data sets via the web using SAS/IntrNet or SAS AppDev Studio in Version 9”

Minh Duong and Kevin Davidson

Visually editing a data set is often a more straightforward method than writing and submitting code. This is especially true when frequent editing is required or when many end-users are doing the editing. Traditional SAS offers visual editing options with ViewTable, SAS/FSP, and SAS/AF. This paper will introduce ways to accomplish data set editing including modifying, adding, and deleting records via the web. The methods presented will be categorized in terms of ease of use, flexibility, and extendability. SAS/IntrNet and SAS AppDev Studio will be the software components discussed.

“ID statement in Proc Transpose: why, how and when we have to use it.”

Alexander M. Feigin, Synthes USA, West Chester, PA

Proc Transpose is an intensively used tool in Base SAS. It has a simple syntax and is very effective in terms of exchanging the significance of row and column identifiers. This paper discusses two issues: 1) the inappropriate usage of Proc Transpose without the ID statement and 2) creating complex ID variables in order to transpose across more than one variable simultaneously.

“Preemptive DATA CLEANING: Techniques”

Malachy J. Foley, Chapel Hill, NC

Data cleaning is a necessary evil... Or is it? Many techniques exist that prevent data errors at data gathering and/or at data input. The use of these techniques eliminates or minimizes the errors that actually get into your computer files. One such technique is check digits. Check digits can eliminate up to 99% of all transcription and keying errors. Other techniques include proper form design, data monitoring, double keying, and hash totals. This tutorial examines these error-prevention techniques through examples and where applicable, it includes SAS code.

“MERGING vs. JOINING: Comparing the DATA Step with SQL”

Malachy J. Foley, Chapel Hill, NC

Which merges files better: the SAS ® DATA Step or SAS SQL? Traditionally, the only way to merge files in SAS was via the SAS DATA Step. Now SAS provides a Structured Query Language (SQL) facility which also merges files. This tutorial compares and contrasts these two merge facilities. It examines the pros and cons of each merge technique. It looks at DATA Step code to perform specific merges and then looks at the corresponding SQL code to perform the same merges.

“ODS Output of Proc SurveyMeans for a Bobcat Hunter Survey”

Rebecca Frederick & E. Barry Moser, Louisiana State University Agricultural Center
Greg Linscombe & Mike Olinde, Louisiana Department of Wildlife and Fisheries

The Louisiana Department of Wildlife and Fisheries (LDWF) conducted a Bobcat, Fox, and Coyote Hunter Survey of randomly selected Louisiana resident hunters licensed to hunt big game during the 2003-04 deer season. LDWF wanted harvest and attitude information concerning a new bobcat season which ran concurrent with the 2003-04 deer season. There is little information on the numbers of bobcats within the state of Louisiana, and so, harvest data will be used to best manage the season and monitor trends through time. Questions pertaining to whether shots were fired at a bobcat, whether bobcat were hit and whether bobcat retrieval efforts were successful were included in the questionnaire. If a bobcat was bagged, the hunter was asked whether another bobcat would be taken during the 2004-05 season, if the opportunity arose. Additional questions pertaining to coyote and fox were also included in the survey instrument but will not be discussed. The bobcat data were analyzed by PROC SURVEYMEANS with PDF output in an ODS statement. Proper graphical display of the weightings from PROC SURVEYMEANS made this investigation quite intriguing.

“Maintaining Inherited SAS Code”

Clarence Wm. Jackson, CSQA

SAS has been around awhile and has worked so well that programs are still running at companies while the person who wrote the program code (the code) has left the company. When the code requires attention because of changes, ABENDS, or other reasons, then someone not familiar with the code must be able to quickly make the changes. Thoughtful people will usually want to understand the code before making changes, but getting an understanding requires some time for reviewing the code. Applying a process to evaluate the code can reduce the time needed to understand the code before making changes. This paper introduces a checklist process that when applied, reduces the time needed to understand unfamiliar and undocumented code. The checklist can further be used as documentation of the code for later reference.

“The Match Game”

Faron Kincheloe, Baylor University, Waco, TX

Anyone who uses names and addresses in his or her business knows that duplicates can be a costly headache. Identity theft legislation has essentially taken away the Social Security number as a unique identifier making duplicates even harder to identify. The DQMATCH function in the SAS® Data Quality Server module is a powerful tool for identifying potential matches so the data can be cleaned. However, as with any matching tool, there is a trade off between false positives on one side and overlooking true matches on the other. This paper covers the fundamentals of using the DQMATCH function to clean names and addresses. Additionally, it presents some programming techniques that can be used to optimize the matching process. These techniques enable the user to win the match game by detecting the maximum number of true matches while minimizing the number of false matches.

“Sleepless in Seattle (or Wherever) – Resolving Issues in Scheduled Jobs”

Faron Kincheloe, Baylor University, Waco, TX

Even with the capability of Windows scheduler or other utilities to schedule your SAS® jobs to run automatically, life is not always a dream. Dataset names and variables that must be changed periodically along with perpetually growing log files can keep you awake at night. This paper discusses techniques to solve these problems using macro variables and various date formats. It will also discuss a method for time-stamping data when you have non-standard time periods. Perhaps you've lain awake at night worrying about whether your jobs completed successfully or maybe you worry about the effects of leaving your computer on all the time. This paper will describe a relatively simple way to send an e-mail message when a job fails and will show you how to automatically shut off

your computer when your jobs finish running. These techniques can be implemented using the tools available with a typical SAS® installation on the Windows platform without the need for complex macros or additional software.

“While You Were Sleeping - Scheduling SAS® Jobs to Run Automatically”

Faron Kincheloe, Baylor University, Waco, TX

If you are tired of running the same jobs over and over again, this paper is for you. The Windows operating system is often viewed as strictly interactive in that a job is expected to run immediately when it is submitted. However, there are several options for scheduling SAS® jobs to run at a later time and on a repetitive basis. This paper will discuss how to use these options and how they have changed with recent versions of Windows. Scheduling issues related to Data Warehouse Administrator will also be discussed. The primary focus of the discussion will be its interaction with the Windows operating system.

By using one of the scheduling options discussed, you will no longer have to remember to submit a job at the proper time or get up in the middle of the night to start your jobs. Let Windows take care of all that for you, while you are sleeping.

“Exploring DICTIONARY Tables and SASHELP Views”

Kirk Paul Lafler, Software Intelligence Corporation

SAS® users can quickly and conveniently obtain useful information about their SAS session with a number of read-only SAS data views called DICTIONARY tables or SASHELP views. At any time during a SAS session, information about currently defined system options, libnames, table names, column names and attributes, formats, indexes, and more can be accessed and captured. This paper explores the purpose of DICTIONARY tables and views, how they are accessed, and what information is available to SAS users. Attendees will learn how these important tables and views can be accessed and applied using real-world scenarios.

“Exploring SAS® Generation Data Sets”

Kirk Paul Lafler, Software Intelligence Corporation

Users have at their disposal a unique and powerful feature for retaining historical copies of SAS data sets. This collection of copied generation data sets, representing versions of the same data set consists of a root member name and a unique version number, is aptly referred to as a generation group. This presentation explores the power associated with generation data sets by showing users their purpose, how they are created and maintained, the approach for accessing a specific version of a generation group, as well as other useful operations. Simple coding examples will be illustrated to reinforce concept and application.

“Join, Merge or Lookup? Expanding your toolkit”

Judy Loren, Sandeep Gaudana, Health Dialog, Portland, ME

People who are learning SAS® often ask: Is the DATA step or PROC SQL better? The answer depends on several factors. This paper will provide guidance to help new-to-intermediate users make an informed choice in merge/join situations. The syntax and the theory underlying 5 different techniques for bringing together data from 2 (or more) datasets will be covered. The techniques to be included are: sort and merge; SQL; user-defined formats; hash tables; and indexed lookup. The methods will be compared for suitability in a variety of specific merge scenarios, and benchmarks of resource use will be shown. A macro that can be used to develop similar benchmarks at any site on any data is included. This should be a handy resource for anyone who is often faced with new merge challenges.

“MP CONNECT: Warp Engine for SAS (Multi-Processing in the Sun Solaris Environment)”

Pablo J. Nogueras, CitiFinancial International, Risk Management Technology, Irving, Texas
When you are assigned a project, the first question asked by the assignor is not “How will you program the project?”, is not “What kind of Quality Control will you use?”, or is not “How much data will you use?”. The question asked is “How FAST can you get me the results?”. There are various programming techniques in SAS that allow one to increase execution speed. One such technique is the use of Parallel Processing or Multi-Processing, that is the execution of self-contained tasks simultaneously. This paper will demonstrate the use of MP CONNECT (part of SAS/CONNECT) to decrease execution time SAS programs.

“Automating the Drudgery Away: Using Macros and ODS to Produce (Almost) Complete Reports”

Phil Rhodes, Baylor University, Waco, TX

The mission of the Office of Institutional Research and Testing (IRT) at Baylor University is to conduct research in order to provide information which supports institutional planning, policy, and decision making. As part of that mission, IRT produces approximately 75 research-related reports each year, along with several hundred ad hoc reports about prospective students, enrolled students, faculty, and staff. Six of the most important of these reports are the annual profiles of the student body, produced each fall. Previously, these reports were generated on a mainframe and the output printed. The data for the tables in each report was then manually entered into a Microsoft Excel template. This was a tedious and error-prone process, requiring five staff members many hours of data entry and proofreading. This paper will describe the steps taken to streamline the production of these reports using the SAS Macro Language and ODS. The current process takes one person less than an hour to produce the reports and requires minimal proofreading due to automatic generation of the report tables.

SAS products used include Base SAS, the SAS Macro Language, and ODS. Basic knowledge of PROC TABULATE, the SAS Macro Language, and ODS is assumed.

“Truncated Levy walks applied to the study of the behavior of Market Indices”

M.P. Beccar Varela, Department of Mathematical Sciences, New Mexico State University; M. Ferraro, Department of Physics, University of Buenos Aires and CONICET; S. Jaroszewicz, Department of Physics, University of Buenos Aires; M.C. Mariani, Department of Mathematical Sciences, New Mexico State University

This work is devoted to the study of statistical properties of Major Market Indices and Emergent Market Indices. We conclude that the behavior of the return is compatible with a slow convergence to a gaussian distribution.

“Nesting SAS Macros “

Marsha Weston, SRA International, Inc., San Antonio, TX

Macros in SAS are useful for repetitive tasks. This paper illustrates “how” macros were used to scan for the presence of particular words, user-id’s, in output reports to generate a text output file outlining possible problems with HIPAA compliance.

“Duplicate Payments and Duplicate Vendors: How to Identify All of Them”

Christine L. Warner, Automated Auditors, LLC

When Sarbanes-Oxley was passed in 2002, many companies were forced to take an in-depth look at internal controls. Despite efforts to tighten controls, duplicate payments still occur by the millions across all industries. Mark Van Holsbeck, Director of Enterprise Network Security for Avery-Dennison, estimates that corporations make duplicate payments at the rate of 2%. Two percent may not sound like much, but if your company’s A/P invoices total \$75 million, duplicate payments may account for \$1.5 million.

In a rush to find the overpayments, many companies have emerged: A/P Recap, Automated Auditors, AP Recovery, ACL, Idea, and more. That these companies are thriving is a testament to the fact that duplicate payments still occur at an alarming rate.

Many software packages have some controls over duplicate invoices but it usually takes some in-depth querying to find them all. For example, many accounting packages do a duplicate invoice check and prevent you from keying in a duplicate invoice number for the same vendor. But just add an "A" to the invoice number or change a penny and you are on your way to a duplicate payment. Another common mistake is found in vendor files; duplicate vendor numbers for the same vendor is the number one cause of duplicate payments.

This article describes tested logic used to catch ALL of your duplicate payments and duplicate vendors. The logic outlined in this article has been used to identify millions in overpayments, for companies as large as MCI and Komatsu, but will also work for smaller corporations.

“State Agency Personnel Information Reports: a SAS/IntrNet® Project”

Thomas J. Winn, Jr., State Auditor’s Office, Austin, Texas

This paper describes how the author used SAS/IntrNet to develop a simple intranet application to provide auditors and investigators at the State Auditor’s Office with information extracted from several databases containing personnel information data for the State of Texas.

“Techniques And Methods To Implement Neural Networks Using SAS and .NET”

Shenglin Zheng, Johnny Dupree, Uttam Shah, Marc Torres

Neural networks are a powerful method for solving complex, "real world", modeling problems when traditional algorithms cannot be formulated. Most neural networks are implemented in programming languages that can represent data structures well such as C/C++, Java or Visual Basic. SAS is very good at processing longitudinal data. This paper will offer techniques and methods through implementation of neural nets using only BASE SAS and SAS macro's to represent intrinsic iterative learning/training steps of neural network algorithms. This SAS program can be used as building blocks to build one's own neural network models or be used as a starting point to study neural networks for SAS programmers. A numeric example for predicting stock prices is presented in this paper using a .NET application framework.

Descriptions of PC Hands-On Workshops at SCSUG 2005

Presented by Dana Rafiee, Destiny Corporation, Rocky Hill, CT

“Macro Basics: Show Me How to Code Less”

Get hands-on experience understanding how macros can be used and created in SAS software. We will use macro variables and macro statements such as Call Symput and Symget, %macro, %mend, and %let. Learn to write macros for existing code and make your programs simpler and more efficient

“How Can I Merge Without Sorting?”

Build your SAS tool kit with this workshop of different techniques for combining files without sorting. Topics include Merge, Format, Index, SQL, Macro, and Arrays.

“Enterprise Guide: Why Use It?”

Enterprise Guide is shipping with Version 9. It is designed as a menu driven way to write SAS programs. Attend this hands on workshop to get some experience with this new environment.

“Add-In for Microsoft Office: Get Those Users Off My Back!”

Learn how this new SAS tool can allow users who love Excel to run SAS programs you build and standard SAS Procs to analyze data without ever having to ask you. Find more time in your workday for golf, tennis, and badminton.

“ODS Basics: Let’s Understand How to Write ODS Code”

The Output Delivery System has been available in SAS since Version 7. Isn’t it time you understood how simple it is and why it can make your presentations better. We’ll discuss how to take simple output and create PDFs, RTFs, HTML and more. We’ll investigate the use of Styles and modifying that dreaded Template.

“Tabulate Basics: Why My Brain Doesn’t Work That Way”

For so many years, people have struggled with Proc Tabulate. They usually don’t get it or copy someone else’s code and think there is some type of magic to this process. In this workshop, we will drink the Tabulate Kool-Aid. You will find creating cross-tabulations to be simple, fun and actually make sense.

“Hands On Free For All”

This is a workshop where you can ask questions about standard SAS topics you wish to know more about. It will be structured as a question, discussion, demonstration and workshop format. So, bring your questions.

“Virtual Learning Hands On Workshop”

This is a special workshop where you will be able to take a Virtual Learning Course and choose from over 360 topics. See the Virtual Learning Café Listing of courses for the available topics. In addition, Mr. Rafiee will be available to you to answer questions you may have regarding these topics.

Descriptions of Half-Day SAS Seminars at SCSUG 2005

Presented by SAS Institute

“Intro to ODS Markup”

This seminar teaches you how to create markup files (including CSV, HTML, LaTeX and XML) from SAS procedure output using the Output Delivery System in SAS 9. You also learn techniques that enable you to customize your results. (3 hours)

“Intro to SAS XML Libname Engine”

This seminar is designed for users who want to import structured XML files into SAS data set format or export structured XML files from SAS data sets. Hands-on demonstrations illustrate various export formats. Also covered is the use of the XMLMap facility and the SAS XML Mapper graphical user interface to map hierarchically arranged XML into SAS data set format. This course includes a brief introduction to Tagset Templates and how they can be modified with the TEMPLATE procedure for use with the SAS XML LIBNAME engine. (3 hours)