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As this newsletter is being written, in the midst of the heat of our Mediterranean-like summer, it is hard to think ahead to SAS Forum UK in the dark days of November. However, allow us, if you would, to transport you there for a moment so you can discover what exciting things are now being lined up. If you haven't yet registered your interest you need to do so now – before long our invitations will be sent out, so make sure you're on the list! Also, how about listening to speaker Professor Thomas Davenport's webcast? Find out more below in the Technology and Solutions section.

Recently 28 new professionals were SAS certified at the Special Interest Groups held in Buckinghamshire at the SAS UK headquarters. It was a great day of discussion and insight which you can read about below.

Looking outside the UK, SAS worldwide is celebrating its 30th Anniversary and Dr Jim Goodnight (President and CEO) visited the UK on the 28-30 June – visiting both Loch Lomond and London! All this, plus information on the new 08457 number for SAS Support, a new Education brochure, an online survey and much, much more! Without further ado, please read on....

CORPORATE NEWS

SAS is Best Anti-Money Laundering Solution

In a recent poll SAS was selected by readers of Waters magazine as the best anti-money laundering solution provider. In the July edition of the magazine it was revealed that more than 500 readers voted for their best financial information technology vendor – SAS came away with 38.1% of the vote for anti-money laundering compliance category.

"SAS strives to ensure our customers' success through focused business solutions and world-class expertise," said David Stewart, Director of SAS' Anti-Money Laundering Program. "This award is a testament that we are addressing the specific industry pains of our financial services customers worldwide, and that our hard work and commitment are appreciated."

Installed directly or accessed through an application service provider, SAS Anti-Money Laundering is a sophisticated anti-money laundering solution that can take mountains of information from all areas of a financial business, manage and refine that information, and turn it into usable knowledge that will help a business identify and classify suspicious behaviour efficiently and accurately. It can help institutions meet stringent government regulations, protect shareholder confidence and maintain a strong reputation. The solution offers an integrated and open-ended architecture that lets organisations gather information across data sources, transform the appropriate data into real intelligence, detect suspicious activity and accurately alert investigators and authorities.

SAS also provides a user group for its anti-money laundering customers, enabling them to share best practices and knowledge as a community.

Since its launch in 1993, Waters has been relied on by financial technology professionals worldwide for focused, in-depth coverage of financial market data and technology.

For the full Waters rankings article from the July 2006 issue, please visit:
<http://www.watsonline.com/public/showPage.html?page=335225#13>

http://www.sas.com/offices/europe/uk/press_office/press_releases/july2006/aml.html

CORPORATE NEWS

Global Enterprise Risk Management Survey Builds Strong Business Case for Financial Institutions

The results of a research study conducted by SAS recently unveiled that "Reaping business benefits now matches regulatory compliance as the key driver of enterprise risk management (ERM) systems". The global survey of 339 financial services executives revealed this conclusion, and subsequently came to light at the Risk Capital 2006 Conference in Paris in July.

A full 83 percent of participating financial institutions view ERM as a strategic priority, per the survey. Many are setting up new ERM or "integrated compliance" programs. The survey also found that credit risk management is still the top risk management expenditure priority for most firms. In addition, 78 percent of respondents view credit risk management as critical and anticipate significant, quantifiable economic rewards over the next 24 months, including a 10 percent reduction in economic capital and a 14 percent reduction in cost-of-credit losses.

To illustrate the impact of these findings, researchers applied these projected cost savings to a large financial institution with a regulatory capital allocation of \$10 billion, of which \$6 billion is allocated for credit risk. Based on the average survey result, the bank applying an advanced, systematic ERM program, would reduce its capital allocation by \$600 million. Applying a standard 10 percent cost of capital rate, this means that the implementation of the ERM program could give the bank a net benefit of \$60 million over 12 months. Furthermore, if the credit risk cost saving is applied to the same institution, one that has stated a \$1 billion annual credit risk loss in its recent annual report, then it is reasonable to assume that this bank could save approximately \$140 million per annum through improved credit risk management. The combined savings from these two efforts results in a total of \$200 million in annual savings for this institution.

Data quality and data management continue to be the biggest obstacles to the successful implementation of an ERM system, according to respondents. Even though discussions about risk management have evolved and matured over the past two years, these data obstacles continue to plague risk management implementations.

"These findings reiterate the significant role of data management and the need for organisations to focus on overcoming the data implementation issue," said Peyman Mestchian, SAS' Director of Risk Management in EMEA. "To deliver an enterprise view of risk that meets all stakeholders' requirements, institutions have to start with what they have in common: information. That means lifting data out of the organisational and technological silos, cleaning it up, and integrating it into financial and customer decisions to enhance business value and manage companywide risk."

Financial institutions like Belgium-based AXA Bank agree on the need for powerful data analysis when handling enterprise risk management. "We wanted to make these necessary investments as profitable as possible by also generating information more rapidly to benefit the customer and the business," said Philippe Colpin, Manager of Basel II and IAS/IFRS Credit Retail Issues at AXA Bank. "Hence the need for an efficient data analysis tool to help us turn Basel II constraints into opportunities."

The survey responses indicate that, for long-term strategic benefits, firms need to rely on software that delivers consistent and transparent data governance. Focusing on regulatory timetables may obstruct progress toward more forward-looking ERM. This survey demonstrates that during the next few years, financial institutions will be looking to get value from their investment in compliance processes and systems. Firms are aiming to have a more integrated and systematic approach to ERM leading to risk-based performance management.

"The business case for ERM withstands the 'cost-benefit' test only if an organisation can implement a fully integrated risk intelligence platform, drawing from existing data sources and working with complex and heterogeneous IT environments,"

explained Mestchian. "The platform needs to cover the full spectrum of risks, bringing them together under a single governance umbrella."

For a summary of the survey results, please visit www.sas.com/ermsurvey.

For more information on SAS@Risk Intelligence, please visit www.sas.com/industry/fsi/risk

http://www.sas.com/offices/europe/uk/press_office/press_releases/july2006/risk.html

CUSTOMER SPOTLIGHT

Join Other Reputable Companies and Share your Experiences!

Would you like to join other customers and be the star of a success story? If your company has effectively deployed SAS technologies or is using an interesting application of SAS within your business, we can work with you to share your knowledge and best practice with other SAS customers.

We offer a range of opportunities from conveying your company's story via the website, or appearing in the customer spotlight section in this newsletter, to speaking at SAS user conferences during the year.

If you have something to share then do not hesitate to get in touch to discuss the options, we'd love to hear from – please fill in the form at the below link.

http://www.sas.com/offices/europe/uk/corporate/success_form.html

CUSTOMER SPOTLIGHT

More SAS Customer Success Stories in the UK Market Place

http://www.sas.com/offices/europe/uk/solutions/customer_successes/index.html

TECHNOLOGY & SOLUTIONS

Receive a Free Leather CD Wallet ... when you complete our Website Feedback Survey

We are always looking at ways to enhance the SAS UK website so your feedback is important and invaluable to us.

This is your opportunity to tell us what you think of the information available and the way it is presented. We are keen to know more about the people who use our website and the survey results will be used to establish priorities for its development.

As a 'thank you' for taking the time to share your comments and suggestions we will send you a SAS branded black leather CD wallet.

<http://www.sas.com/offices/europe/uk/corporate/webreview.html>

Special Interest Groups' Success

The sun shone in Marlow to welcome 119 delegates to SAS UK's headquarters by the River Thames on 11 July for our Special Interest Groups (SIGs). These groups, usually held at SAS Forum UK, are a fantastic place for people to discuss how they use SAS, how they would like to use SAS, and to ask questions or get advice from SAS professionals and staff. By the end of the day there were 28 newly certified SAS professionals and a good day was had by all. The day's events included discussion groups in the areas of Data Management & Storage, Business Intelligence, Analytic Intelligence, and Architecture, a marquee and outside seating to enjoy the sun, and a delicious spread of food and drinks for delegates to enjoy whilst networking over breakfast and lunch. View the presentations at the below link.

<http://www.sas.com/offices/europe/uk/events/sigs2006/>

You cannot miss next year's Special Interest Groups! Keep reading In the Know to hear of future plans.

Professor Thomas Davenport's Webcast - Launching SAS Forum UK 2006

Make sure you keep visiting SAS website for updates on the agenda and speakers [for SAS Forum UK 2006](#), also to be highlighted in the next *In the Know*. The webpage is now updated and gives more information on what will be going on this year at SAS Forum at the Birmingham Metropole on 1-2 November. Newest addition to the webpage is speaker Professor Thomas Davenport's webcast – go and have a listen!

<http://www.sas.com/offices/europe/uk/events/userforum/index.html>

Building a Multi-Terabyte Star Schema using SAS

Based on a real-world scenario, this performance brief describes the results of a test scenario where more than 4.2 Terabyte of data was processed in just over one hour. The massive throughput of 81.2 GB/Hour/CPU demonstrates that as data volumes increase and batch windows get smaller, SAS is able to scale to meet the most demanding applications. You can view the performance brief at the below link.

http://www.sas.com/offices/europe/uk/downloads/multi_terabyte.pdf

SUPPORT & SERVICES

SAS Education Brochure

You may have browsed the webpages of our Education department here at SAS – they are a great place to read about the latest giveaways (recently the SAS beach towel, a summer must-have!) and to discover what knowledge, expertise, and assistance we can offer you to help you understand and better use SAS. Alternatively, you may prefer to download the 2006 brochure detailing up to the minute information about our training courses, support services and qualifications at this link, and read about SAS Education at your leisure.

http://www.sas.com/offices/europe/uk/education/sas_bro_06update.pdf

Introducing SAS Customer Support's New 0845 Number

As part of our on-going drive to improve our service to you, from 1st August 2006 SAS customers in the UK can benefit from SAS Support's new, low cost, 0845 number. Simply dial 0845 402 9907 and you'll be put straight through to one of team of SAS experts.

Don't forget, that's 0845 402 9907.

You can also contact SAS Support by email at support@sas.com or by visiting our website www.sas.com/uk/support

SAS Support - We provide all the help you need if you run into difficulties, as well as offering expert advice on optimising your use of SAS.

www.sas.com/uk/support

Let Us Help You Get the Best Out of Your Investment in Us - the New Professional Services Brochure

The Professional Services brochure will show you what we promise to deliver and what we can offer through consultation, education, and support. Follow our suggested four steps - assess, implement, enable and manage your company to maximise your return on investment. To request a brochure and find out more about all consulting, professional, educative and supporting services please follow the link below.

http://www.sas.com/offices/europe/uk/education/prof/brochure_request.html

HINTS & TIPS

How Can I Work Out When Easter Sunday Falls in Any Given Year?

(Andrew MacFarlane, Business&Decision)

We all know how random the arrival of Easter Sunday can be each year, and trying to work out when it falls so that events can be arranged or projects can be planned is rather difficult. Well, not anymore – instead of trying to take wild guesses at the date of Easter Sunday, this code will help you! This is especially handy in the Financial Services areas where certain jobs/processes are required not to be run on bank holidays.

```
%macro calculate easter(year);
  %global easter;
  data null ;
    a = mod(&year.,19);
    b = floor(&year./100);
    c = mod(&year.,100);
    d = floor(b/4);
    e = mod(b,4);
    f = floor((b+8)/25);
    g = floor((b-f+1)/3);
    h = mod((19*a) + b - d - g + 15),30);
    i = floor(c/4);
    k = mod(c,4);
    l = mod((32 + (2*e) + (2*i) - h - k),7);
    m = floor((a + (11*h) + (22*l))/451);
    n = floor((h + l - (7*m) + 114)/31);
    o = mod((h + l - (7*m) + 114),31);
    easter = put(mdy(n,(o + 1),&year.),ddmmyy10.);
    call symput("easter",easter);
  run;

%mend calculate easter;
%calculate easter(year=2006);
%put &easter;
```

HINTS & TIPS

Sending a Customised Email Depending on the Results of Other SAS Jobs

(Jason Thornton, Halifax plc)

Do you have jobs running overnight/early morning? Do you need to know immediately if when running one job, the balance in this agrees with the balance in another? Would it save you time being able to email the results immediately, after checking to see if the two balances agree or alert someone if an error has occurred?

The following code allows an e-mail to be sent only if the variable 'amt' equals the macro variable '&all_tot' created earlier. If they don't balance, then an e-mail can be sent to alert an individual who is able to investigate why the figures do not agree. This principle is used to establish whether further jobs should run. For instance, if the amount 'amt' in the Brands dataset doesn't balance to the macro variable 'all_tot', then due to possible data errors, you may not wish further jobs to read in the datasets created by this job, until the imbalance has been investigated.

```
/* Code to generate the Amt field */

data brands;
input Brd $ Amt comma15.2 DTE date9. Vol $;
format Amt comma15.2 dte date9.;
```

```

cards;
Halifax 123,456,789.98 20Jul2006 1,234
run;

/* Code to create the all_tot macro variable */

%let all_tot=123456789.98;

/* Check to see if they match */

data null ;
  set Brands (keep = amt);
  if amt eq &all_tot then check = 0;
  else check = 1;

  check=(trim(left(check)));
  call symput('check', check);
run;

%macro chk;
%if &check = 0 %then %do;

/* E-Mail Code generated when the amounts balance */

data null ;
filename ch error email ("sukxxx@suk.sas.com")
subject="ABC Report" attach=("d:\temp\file.xls");
run;
data null ;
  file ch_error;
  put "Please find attached today's abc report.";
run;
%end;

%if &check = 1 %then %do;

/* E-Mail Code generated when the amounts do not balance */

data null ;
filename ch error email ("sukxxx@suk.sas.com")
subject="Error - Check Report Balances" attach=("d:\temp\file.xls");
run;
data null ;
  file ch_error;
  put "Check abc report, as an imbalance has occurred with def report.";
run;
%end; %

mend chk;

%chk;

```

HINTS & TIPS

New Datastep Functions in SAS9® (SAS Support)

Lots of new functions including new CHARACTER functions, new COMP functions and new mathematical and statistical functions.

New Datastep Functions in SAS9®

Previously in version 8 we may have used multiple functions and/or logic within the datastep to achieve the desired results but now in version 9 in order to make this process easier we have introduced many new SAS functions. This will save time, effort and system resources when coding using the datastep.

- New CHARACTER functions

- New FIND and FINDC functions
- New CAT functions
- New COMP functions
- New COUNT functions
- New LENGTH functions
- New Mathematical & Statistical functions
- New VARIABLE functions

New CHARACTER Functions

There are 13 of these character functions and they come in pairs. The 'ANY' group of functions search for the first matching character in the target string. The 'NOT' group of functions searches for the first character that does not belong to the target string.

Here's an example using the ANYLOWER function. An optional second parameter allows you to specify the starting position for the scan and the direction of the scan. In this example we are searching for a lower case character in a string starting at position 5 but moving from right to left.

```
p=anylower('ALICE', -5);    p=4
```

Note: The result is still given in the forward direction from left to right.

Here is a table summarising the new character functions.

"ANY" function	"NOT" function	Characters Considered
ANYALNUM	NOTALNUM	0-9 a-z A-Z
ANYALPHA	NOTALPHA	a-z A-Z
ANYCNTRL	NOTCNTRL	Control characters
ANYDIGIT	NOTDIGIT	0-9
ANYFIRST	NOTFIRST	Characters valid as first character in a SAS variable name under VALIDVARNAME=V7, i.e. a-z A-Z and underscore
ANYGRAPH	NOTGRAPH	Printable characters other than white space. (Definition varies depending on TRANTAB, ENCODING and LOCALE system options.)
ANYLOWER	NOTLOWER	a-z
ANYNAME	NOTNAME	Characters valid in a SAS variable name under VALIDVARNAME=V7 i.e. a-z A-Z 0-9 and underscore
ANYPRINT	NOTPRINT	Printable characters (including white space). (Definition varies, as for ANYGRAPH).
ANYPUNCT	NOTPUNCT	Punctuation (Definition varies, as for ANYGRAPH).
ANYSPACE	NOTSPACE	White space (including TAB, VT, CR, LF, FF)

ANYUPPER	NOTUPPER	A-Z
ANYXDIGIT	NOTXDIGIT	0-9 a-f A-F

New FIND and FINDC Functions

The FIND and FINDC functions are enhanced versions of the INDEX and INDEXC functions respectively.

There are several optional parameters that can be added to the FIND or FINDC functions such as:

“i” = case insensitive
“t” = trim both string and substring
“v” = NOT

Here are some examples using FIND and FINDC:

```
a=find('ThetestString','test');      *a=4 (t);
b=find('thetestString','St',-13);    *b=8 (S);
c=find('Caravan ','car ','it');      *c=1 (c);

a=findc('Alpha Test','abc ',-10);    *a=6 (space);
b=findc('Alpha Test','abc ',-10,'t'); *b=5 (a);
c=findc('Alpha Test','abc ','iv');    *c=2 (l);
```

New CAT Functions

There are four new concatenation functions introduced in version 9. Here are examples of the new functions along with the equivalent code used in version 8.

CAT(OF X1-X4) concatenates “as is” .
Version 8 syntax: X1||X2||X3||X4

CATT(OF X1-X4) removes the trailing blanks.
Version 8 syntax: TRIM(X1)||TRIM(X2)||TRIM(X3)||TRIM(X4)

CATS(OF X1-X4) removes the leading and trailing blanks.
Version 8 syntax: TRIM(LEFT(X1))||TRIM(LEFT(X2))||TRIM(LEFT(X3))||TRIM(LEFT(X4))

CATX(SP, OF X1-X4) removes the leading and trailing blanks and inserts separators.
Version 8 syntax: TRIM(LEFT(X1))||SP||TRIM(LEFT(X2))||SP||TRIM(LEFT(X3))||SP||TRIM(LEFT(X4))

New COMP Functions

There are three new functions for comparing pairs of strings.

The COMPARE function returns the first character position at which the two strings differ. The sign is used to tell us which of the two comes first in the sorting sequence.

The COMPGED function calculates the “Generalized Edit Distance” between two strings. The GED value returned is a measure of how likely one is to be a misprint for the other as a minimum-cost sequence.

The COMPLEV function calculates the “Levenshtein Edit Distance” between two strings. This is a special case of the General Edit Distance.

There are additional optional parameters that can be added to these functions:

"i" = case insensitive

"l" = ignore leading blanks

```
d=compare('Stationary','stationery','il'); *d= -8 (because a comes before e);
GED=compged('baXboon','baboon'); *GED= 100 (deleting X);
```

New COUNT Functions

The COUNT function counts the number of times that a specific substring of characters appears within a character string that you specify.

```
c=count("This is a thistle? Yes, this is a thistle.",'this','i'); *c=4;
```

The COUNTC function counts the number of specific characters that either appear or do not appear within a character string that you specify.

```
c=countc('3.14159','12345','vo'); *c=2 (i.e. point and 9) ;
```

New LENGTH Functions

In version 8 the LENGTH function returns the length of a non-blank character string, excluding trailing blanks, and returns 1 for a blank character string.

Three new LENGTH functions have been introduced in version 9.

LENGTHC returns the length of a non-blank character string, including trailing blanks.

```
len=lengthc("The string has trailing spaces "); *len=35;
```

LENGTHN returns the length of a non-blank character string excluding trailing blanks, and returns 0 for a blank character string.

```
len=lengthn(" "); *len=0;
```

LENGTHM returns the amount of memory (in bytes) allocated to the string. Here four spaces within a string reserves four bytes for the string.

```
len=lengthm(" "); *len=4;
```

New Mathematical & Statistical Functions

The MEDIAN function returns the median of all the non-missing arguments.

```
y=median(5,8,0,3,4); *y=4;
```

The MAD function returns the Median Absolute Deviation from the median.

```
mad=mad(2,4,1,3,5,999999); *mad=1.5;
```

The IQR function returns the inter-quartile range of a set a values.

```
iqr=iqr(2,4,1,3,999999); * iqr=2 ;
```

The PCTL function calculates percentiles. In this example we calculate the 25th percentile of the other 9 parameters.

```
n=pctl(25,1,2,3,4,5,6,7,8,9); *n=3 ;
```

The LARGEST and SMALLEST functions select values from the desired position in a list. In this example it will return the third-largest of the other 9 parameters.

```
n=largest(3,1,2,3,4,5,6,7,8,9); *n=7;
```

New VARIABLE Functions

The VVALUE function returns the formatted value that is associated with the variable that you specify. Within version 8 you would use the PUT function with the variable's own default format. The argument to VVALUE must be a variable.

```
y=9999;  
format y comma10.2;  
v=vvalue(y);  
v=9,999.00
```

The VVALUEX function returns the formatted value of an expression. The expression specifies any SAS character expression that evaluates to a variable name. The value of the specified expression cannot denote an array reference.

```
date1='02feb06'd;  
date2='date1';  
format date1 date9.;  
datevalue=vvaluex(date2);  
datevalue=02FEB2006
```

HINTS & TIPS

Share Your Thoughts and Receive a SAS Calculator-Clock

Are there topics that you would like to see covered in Hints & Tips or do you have a hint & tip of your own that you would like to share with other readers? Please contact us with your ideas and if we publish your hint & tip, we will send you a Calculator-Clock!

Email: newsletter@suk.sas.com

EVENTS

IDC IT Security Conference – 21 September, London

In September, a SAS sponsored IDC IT Security Conference is taking place in London. This event embraces the corporate concerns with regulatory compliance, spam, worms/viruses, and identity management - all important issues for the IT professional. Delegates will have the experts provide an independent view of:

- How other organisations have ensured the security of their business through the use of technology
- Factors that your organisation needs to consider when building its security strategy
- The latest technologies, tools and services

To find out more and register for the event please click on the below link.

http://www.idc.com/getdoc.jsp?containerId=IDC_P11682

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SAS UK
Wittington House, Henley Road,
Medmenham, Marlow
Bucks SL7 2EB
Tel: (44) 1628 486933
Fax: (44) 1628 483203
www.sas.com/uk

SAS International
PO Box 10 53 40
Neuenheimer Landstr. 28-30
D-69043 Heidelberg, Germany
Tel: (49) 6221 4160
Fax: (49) 6221 474850

SAS World Headquarters
SAS Campus Drive
Cary, NC 27513, USA
Tel: (1) 919 677 8000
Fax: (1) 919 677 4444
www.sas.com

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