



Dear Readers,

Here at SAS, we're working hard on our SAS Global Forum papers. We strive to provide you with the best presentations and content possible during this annual conference. That doesn't mean, however, that we're neglecting our other priorities. In this newsletter, you'll find an extensive paper on ETL tuning tips and an Insider's View feature by Gail Kramer, Vice President of the Business Intelligence Clients Division at SAS.

For those of you who use SAS/STAT, you'll find an interesting article on experimental Bayesian capabilities. And we have exciting news about a new analytics initiative at North Carolina State University.

Happy reading!

A handwritten signature in black ink that reads 'Shelley Sessoms'.

Shelley Sessoms

Editor, *SAS Tech Report*

Get your degree in analytics

North Carolina State University offers world's first advanced degree program in analytics

Are you a longtime SAS fan? A talented data champion? A true analytics advocate?

Have you considered studying for an MBA or an advanced degree in computer engineering – but haven't found the right program with a strong enough focus on the concepts and technologies you most enjoy?

If you – or someone you know – answered a resounding yes to the questions above, you'll be excited about the new analytics initiative at North Carolina State University (NC State).

Anticipating a real shortfall in workforce skills and a gap in the educational demands of the 21st century work force, NC State and SAS have partnered to launch the world's first advanced degree program in analytics. Students in the program will study on-site in Raleigh, North Carolina, for three semesters and graduate with a Master of Science in Analytics from one of the top technology-focused universities in the United States.

Want to learn more? Review the FAQs below to understand the program's structure and curriculum, and then sign up online at <http://analytics.ncsu.edu/> for e-mail updates or an RSS feed.

What makes this degree program unique?

Its emphasis is on real-world, business-focused analytics. Typical MBA degrees include limited instruction in statistics, and even advanced degrees in data mining don't address critical, contextual issues such as data quality and integration, privacy, security and enterprisewide decision making, to name a few.

"Competing on analytics in corporations, government agencies and educational institutions is becoming a must," SAS CEO Jim Goodnight says. "And our customers are making it clear: They need more talent capable of leveraging world-class business intelligence systems. This program will help meet this need with high-quality, domain-specific analytics education."

What makes NC State the best institution for a program like this?

Located in one of the fastest-growing regions in the world for advanced research and development, NC State University is consistently ranked among the top universities in the nation for its inventiveness and applied orientation.

NC State also has a 30-year history with SAS, which has become a leading vendor of analytics and business intelligence. The company was created by Dr. Jim Goodnight and colleagues while he was a professor at the university in 1976. Goodnight has remained involved in the university community and was eager to partner with NC State to launch the analytics degree program.

Michael Rappa, the program's Director, says: "For a curriculum like this, you really need to work closely with business to ensure you're on the right track. SAS is a leader in analytics and a large employer of analytics-trained professionals, so it was a good fit for us. It's already becoming obvious to me that we are definitely meeting a need. I've gotten several calls from employment recruiters who want an exclusive partnership with us to place our graduates with employers, and I'm receiving calls from people around the world who want to know more about the program."

What topics does the curriculum address?

The MSA degree provides students with an understanding of the concepts, methods, tools and applications of advanced analytics.

The objectives of the program are to:

- Provide students with an understanding of basic concepts and methodologies in the analysis of massive data sets.
- Show how these methods are applied to a variety of complex problems facing organizations, using real-world problems.
- Give students a sense of the broader context, such as security, privacy and ethical issues in the use of personal and confidential data.
- Provide direct hands-on experience using industry-standard software tools during a four-week “boot camp” module.

Specific topics addressed in the curriculum include:

- Human-computer interaction and decision making.
- Marketing analytics.
- IT architectures.
- Data visualization.
- Data ethics.

“The degree is designed to enable students with a unique and well-rounded understanding of not only the statistical methods, but of the practices, methodologies and organizational considerations that all play a role in the world of analytics,” says Rappa.

Who is eligible, and what is the format of the program?

The degree targets students with a strong foundation in quantitative and analytical skills. This may include:

- Students with technical undergraduate degrees, such as mathematics, statistics, engineering, science, computer science or operations research.
- Students with business or economics undergraduate degrees with a strong quantitative orientation.
- Students who are comfortable using computers and computer applications and, ideally, have some programming experience.

The MSA degree is being designed from the ground up with a fully defined 30-credit curriculum of new and dedicated courses. The degree is an intensive, full-time 10-month program that runs from July through April each year.

How can I apply?

NC State is accepting applications from anywhere in the world for this degree program until May 1. You can apply online by visiting <http://analytics.ncsu.edu>. Up to 40 students will be admitted for the first graduating class, with classes starting July 2 and lasting until May 1, 2008. Prospective students also are encouraged to complete an online survey, available at <http://analytics.ncsu.edu/>, to communicate their interests and requests for the program as it develops.

[ONLINE]

NC State program information and updates:

<http://analytics.ncsu.edu/>

SAS Analytics:

www.sas.com/technologies/analytics

ETL Performance Tuning Tips

This PDF provides important ETL (extract, transform, and load) performance, tuning, and capacity information for SAS[®]9 and SAS[®] Data Integration Studio. ETL concepts are introduced and ETL performance topics are covered in depth and with examples as needed.

Read the complete 97-page PDF:

<http://support.sas.com/documentation/whitepaper/technical/ETLperformance07.pdf>

Effect of changes to Daylight Saving Time (DST) in the USA on SAS[®] software, beginning in 2007

The U.S. Energy Policy Act of 2005, which the Congress of the U.S. passed on August 8, 2005, increases the number of days on which almost all the states in the USA will observe Daylight Saving Time (DST).

Beginning in 2007, Daylight Saving Time will take effect on the second Sunday in March. This means that clocks are changed from 2:00 a.m. to 3:00 a.m. on that day. DST ends on the first Sunday in November, when the clocks are turned back from 3:00 a.m. to 2:00 a.m. Previously, from 1986 through 2006, DST began on the first Sunday in April and ended on the last Sunday in October.

The changes in DST will have no effect on how the SAS[®] System runs. The information about whether SAS is running on Daylight Saving Time or Standard Time comes from the operating system.

However, if your SAS program was written to make assumptions about these transitions, your SAS program might have to be changed. For example, the following program would sometimes produce incorrect results regarding DST in 2007:

```
data _null_;
  current_datetime = datetime();
  current_date = datepart(current_datetime);
  current_month = month(current_date);
  if 5<=current_month<=9 then dst=1;
  else if current_month^=4 and current_month^=10 then dst=0;
  else do;
    current_year = year(current_date);
    startdate=mdy(4,1,current_year);
    do while(weekday(startdate)^=1); startdate+1; end;
    enddate=mdy(10,31,current_year);
    do while(weekday(enddate)^=1); enddate=enddate-1; end;
    dst=dhms(startdate,3,0,0)<=current_datetime<=dhms(enddate,2,0,0);
  end;
  if dst then put 'Currently in Daylight Saving Time';
  else put 'Currently in Standard Time';
run;
```

An example of code that calculates the beginning and ending dates for Daylight Saving time for the years 2006 through 2009 is located at:

<http://support.sas.com/ctx/samples/index.jsp?sid=187&tab=code>

Consult your System Administrator to find out whether the operating system on which your SAS software runs has been updated to recognize the changes in DST that begin in 2007.

Foundation SAS uses the SAS private Java Runtime Environment (JRE), extensively. For information about recommended updates for JREs, including the SAS private JRE, see SAS Note [SN-019105](#).

Product: Base SAS
Component: System
Priority: N/A

Note Type: Usage Issue

Date: Wed, 31 Jan 2007

Operating System and Source Fix Information

System	Release Reported	Release Fixed
AIX/6000	8.2 TS2M0	
AIX/6000	9.1.3 TS1M3	
VM/ESA (CMS)	8.2 TS2M0	
Compaq Tru64 UNIX	8.2 TS2M0	
Compaq Tru64 UNIX	9.1.3 TS1M3	
HP-UX Operating Systems	8.2 TS2M0	
HP-UX Operating Systems	9.1.3 TS1M3	
HP-UX Itanium	9.1.3 TS1M3	
Intel ABI	8.2 TS2M0	
Intel Itanium Processor Family(IPF)	9.1.3 TS1M3	
Linux	8.2 TS2M0	
Linux	9.1.3 TS1M3	
Linux Itanium	9.1.3 TS1M3	
MIPS ABI	8.2 TS2M0	
z/OS (MVS)	8.2 TS2M0	
z/OS (MVS)	9.1.3 TS1M3	
IBM OS/2	8.2 TS2M0	
Solaris	8.2 TS2M0	
Solaris	9.1.3 TS1M3	
OpenVMS VAX	8.2 TS2M0	
OpenVMS Alpha	8.2 TS2M0	
OpenVMS Alpha	9.1.3 TS1M3	
Windows NT	8.2 TS2M0	
Windows NT	9.1.3 TS1M3	
Windows 2000 Datacenter Server	8.2 TS2M0	
Windows 2000 Datacenter Server	9.1.3 TS1M3	
Windows 2000 Professional	8.2 TS2M0	
Windows 2000 Professional	9.1.3 TS1M3	
Windows Server 2000 family	8.2 TS2M0	
Windows Server 2000 family	9.1.3 TS1M3	
Windows Server 2003 family	8.2 TS2M0	
Windows Server 2003 family	9.1.3 TS1M3	
Windows 95	8.2 TS2M0	
Windows 98	8.2 TS2M0	

Windows ME	8.2 TS2M0	
Windows XP	8.2 TS2M0	
Windows XP	9.1.3 TS1M3	
Windows XP Professional x64	9.1.3 TS1M3	
Windows 64 bit	9.1.3 TS1M3	

Unless otherwise stated above, no fixes are available for this issue.

Effect of changes to Daylight Saving Time (DST) in the USA on Java (with SAS[®] 9.1.3), beginning in 2007

In 2007, Daylight Saving Time (DST) in the USA will begin on March 11, which is two weeks earlier than in previous years. DST in the USA will end on November 04, which is one week later than in previous years. The version of the Java Runtime Environment (JRE) that is distributed with SAS[®] 9.1.3 software does not recognize this change, and incorrectly calculates the beginning and ending of DST in the USA. The versions of the Java Software Development Kit (JDK) that are used with Tomcat, WebLogic, and WebSphere servers that host SAS Web applications also give incorrect results regarding DST in the USA for 2007.

The JRE and JDK vendors have taken this change into account in later versions. However, those versions also include numerous other, unrelated changes. Because SAS Institute personnel have not tested these updated versions of JRE and JDK, it is not recommended that customers install them.

To circumvent this problem, customers can use the utility programs that are provided by the vendors to update the existing JREs and JDKs with only the new Daylight Saving Time beginning and ending dates. SAS Institute personnel have tested these programs and tested SAS software with the JREs and JDKs that are updated by these utility programs. It is recommended that customers use these utility programs.

For information about the versions of the JRE that are distributed with SAS 9.1.3 and the versions of the JDK that are required by SAS web applications, see the Third-Party Software page at

<http://support.sas.com/documentation/configuration/thirdpartysupport/>

For information about the SAS System and the U.S. Energy Policy Act of 2005, see SAS Note 018773 at:

<http://support.sas.com/techsup/unotes/SN/018/018773.html>

For more information about how the changes affect Java, see

<http://java.sun.com/developer/technicalArticles/Intl/USDST/>

For more information about the update utility programs and how to download them, use the following links to the appropriate vendor Web sites:

Sun Microsystems Inc., released a GA version of its updating tool for Java called Sun Java SE TZUpdater Tool (also known as JDK US DST Timezone Update Tool - 1.0) at:

<http://java.sun.com/javase/downloads/index.jsp>

For more information about Sun Microsystem's tzupdater tool, see

http://java.sun.com/javase/tzupdater_README.html

HP's version of the TZUpdater is now available at:

http://www.hp.com/products1/unix/java/TZUpdater_license.html

The IBM Time Zone Update Utility for Java (JTZU) is available at:

<http://www-128.ibm.com/developerworks/java/jdk/dst/index.html>

For information and statements of support for WebLogic and WebSphere, use the following links:

WebLogic: BEA's support statement is at:

[http://support.bea.com/support_news/
Patch_for_2007_Daylight_Savings_Time_Changes.jsp](http://support.bea.com/support_news/Patch_for_2007_Daylight_Savings_Time_Changes.jsp)

BEA will support WebLogic on a JDK that used the tzupdater tool to update time zone data.

WebSphere: IBM's support statement can be found at:

<http://www-1.ibm.com/support/docview.wss?rs=180&uid=swg21219396>

WebSphere supports the use of the tzupdater tool with currently supported Java products. See:

<http://www-1.ibm.com/support/docview.wss?rs=3068&uid=swg21249339>

Product: Base SAS
Component: System
Priority: HIGH
Note Type: Documented Problem
Date: Tue, 30 Jan 2007

Operating System and Source Fix Information

System	Release Reported	Release Fixed
AIX/6000	8.2 TS2M0	
AIX/6000	9.1.3 TS1M3	
VM/ESA (CMS)	8.2 TS2M0	
Compaq Tru64 UNIX	8.2 TS2M0	
Compaq Tru64 UNIX	9.1.3 TS1M3	
HP-UX Operating Systems	8.2 TS2M0	
HP-UX Operating Systems	9.1.3 TS1M3	
HP-UX Itanium	9.1.3 TS1M3	
Intel ABI	8.2 TS2M0	
Intel Itanium Processor Family(IPF)	9.1.3 TS1M3	
Linux	8.2 TS2M0	
Linux	9.1.3 TS1M3	
Linux Itanium	9.1.3 TS1M3	
MIPS ABI	8.2 TS2M0	
z/OS (MVS)	8.2 TS2M0	
z/OS (MVS)	9.1.3 TS1M3	
IBM OS/2	8.2 TS2M0	
Solaris	8.2 TS2M0	

Solaris	9.1.3 TS1M3	
OpenVMS VAX	8.2 TS2M0	
OpenVMS Alpha	8.2 TS2M0	
OpenVMS Alpha	9.1.3 TS1M3	
Windows NT	8.2 TS2M0	
Windows NT	9.1.3 TS1M3	
Windows 2000 Datacenter Server	8.2 TS2M0	
Windows 2000 Datacenter Server	9.1.3 TS1M3	
Windows 2000 Professional	8.2 TS2M0	
Windows 2000 Professional	9.1.3 TS1M3	
Windows Server 2000 family	8.2 TS2M0	
Windows Server 2000 family	9.1.3 TS1M3	
Windows Server 2003 family	8.2 TS2M0	
Windows Server 2003 family	9.1.3 TS1M3	
Windows 95	8.2 TS2M0	
Windows 98	8.2 TS2M0	
Windows ME	8.2 TS2M0	
Windows XP	8.2 TS2M0	
Windows XP	9.1.3 TS1M3	
Windows XP Professional x64	9.1.3 TS1M3	
Windows 64 bit	9.1.3 TS1M3	

Unless otherwise stated above, no fixes are available for this issue.

Microsoft Windows Vista™ Will be Supported Beginning with SAS® 9.2

In conjunction with Microsoft's general availability of Windows Vista Operating System, SAS will be adding support for this operating system for the first time with release of SAS 9.2.

- SAS 9.2 will support the following three Windows Vista editions (both 32-bit and x64 bit versions) that are targeted at the business market:
 - Windows Vista Business
 - Windows Vista Enterprise - available only to Microsoft Enterprise Agreement customers
 - Windows Vista Ultimate
- SAS 9.2 will NOT support the following two editions targeted at the consumer market:
 - Windows Vista Home Premium
 - Windows Vista Home Basic
- SAS 9.2 will also support Internet Explorer 7, the default Web browser for Windows Vista.
- SAS 9.1.3 does not support Windows Vista operating system.

For more information on Microsoft's Windows Vista operating system, visit Microsoft's Web site at www.microsoft.com/windows/products/windowsvista/default.aspx

The Business of BI: An Interview with Gail Kramer, Vice President Business Intelligence Clients Division at SAS

The Business Intelligence Clients Division at SAS Institute offers solutions to SAS® software users that provide a customizable environment along with packaged applications for information delivery and reporting. Gail Kramer discusses a number of business intelligence (BI) topics, explains how SAS employees use customer feedback to enhance BI solutions, and tells customers about some of the new technology that they can expect to see in SAS® 9.2.

Q: What is the driving mission of the Business Intelligence Clients Division at SAS?

GK: This division is tasked with figuring out how to make our BI solutions meet the criteria and expectations of our corporate BI message. That task includes developing software solutions that are flexible, interactive, and easy to use so our customers can make effective and timely business decisions. We also ensure that our solutions fit well on top of our platform. We can't take credit for all of our business intelligence, though, because business intelligence technology filters down into all levels of SAS software and solutions.

Q: SAS Institute is well known for listening to its customers and incorporating user feedback into its products. How is SAS responding to customer feedback and requests relating to the specialty of business intelligence?

GK: We have strong relationships with our customers, and we do use customer feedback to help determine the features that will go into our software products. Right now, we have a nice system set up where we use pragmatic marketing and collaborate with product management. Our product managers go into the field and poll customers to find out what features they want to see incorporated into our product line. Using that information, the product managers negotiate with people in the appropriate divisions at SAS to ensure that we are including the top-priority features (from a customer perspective) in our software. One of the big features we are incorporating as a result of such feedback is the concept of dashboards. *Dashboards* are tools that provide business professionals with quick access to timely performance information that enables management to make effective business decisions.

Dashboards are one of the most heavily requested features. So, we developed short-term and long-term plans for including dashboards in our software products. In the short term, we placed sample dashboard downloads on the [Customer Support Center Web site](#). These samples show how to use SAS/GRAPH® software to create graphic indicators and how to assemble those indicators into dashboards that are customized for the user's needs. In the long term, we want to add more dashboard capability to our products to help guide users (for example, a user interface). These sample downloads are a good start toward giving people what they need in their reports. We were able to provide these samples in relatively short order by using the technology that we are currently shipping. Since December 22, 2006, when the samples were put online, we have already had over 3000 hits on that site.

Another feature that people have asked for, from an administrative standpoint, is support for multiple repositories. Multiple repositories would make it easier for customers to secure and manage their data. SAS has listened to that feedback, and support for multiple repositories is another of the big features that will be available in SAS 9.2.

Q: Third-party integration is another hot topic among customers. Does SAS plan to incorporate third-party integration features in upcoming releases?

GK: One of the main integration capabilities that people are interested in is compatibility with third-party portals, which fits nicely with dashboards. *Portals* are common entry points into a system, so third-party portal compatibility enables business systems from those portals to be integrated into a dashboard. For SAS 9.2, we are moving to a model in which our portlets are JSR168 compliant (an industry standard for portlets), which means that these portlets will be compatible with third-party portals. This is a huge step for SAS because, previously, we worked only in our own proprietary portals. In SAS 9.2, our portlets will work with any third-party portal that is JSR168 compliant.

We also have plans to add support for the Mozilla Firefox browser, and we have improved our integration with ESRI's geographic information systems (GIS).

Q: Working on third-party integration requires close partnering with other companies. How is SAS working with these companies to create mutually beneficial relationships?

GK: We are working very closely with some of the main providers of application servers (such as IBM and BEA) to make sure that our software always runs on their application servers. There's always a big scramble when an application server is updated because we have to re-test our software to make sure that it works on the new application server. We've been talking to IBM about putting our software in their labs so that, when they are planning to release a fix or a new version of one of their products, they can run regression on our product. Then, if a problem occurs, we'll know before they ship their software if we need to develop a fix or if IBM needs to develop a fix. That's going to be wonderful. It's a win-win situation for both companies, because customers won't call to say that their SAS software doesn't run correctly on IBM's newest release of an application server. We will ask other companies to partner with us in the same way, not only in relation to application servers but, also, for dashboards and integration of third-party portals.

Q: What else can people expect to see in SAS® 9.2 that will improve the customer experience?

GK: In addition to support for multiple repositories, Firefox, and third-party portals, we plan to include the following features:

- more robust dashboard capabilities, including new dashboard graphs (tile charts) and the ability to put reference lines and annotations in graphs
- additional role-based capabilities in desktop and Web applications
- additional improvements in user interfaces (for example, more consistency in the way that applications prompt users)
- a new Interactive Graphics task (a feature that is currently available in SAS® Enterprise Guide® 4.1)
- additional integration between desktop tools and the Web (including more sophisticated prompts in reports and stored processes) that are more sophisticated
- electronic downloading of software products

We are also changing the way that our build system works and the way we deploy fixes or updates to the software. Essentially, this means that you won't have to re-install a big chunk of software in order to apply a fix or an update. Customers will receive a .JAR file that contains only the updated or fixed components.

Q: What is SAS doing in response to the many types of business intelligence that's needed by various users?

GK: We realize that our users have a wide variety of BI needs, and we also know the diversity of roles among the people who will use the various features in our product. Using information that is provided by our UI analysts, we create scenarios that help us customize users' environments for their specific roles in an enterprise. One way that we gather information is by sending UI analysts to customer sites. These visits serve two purposes:

- The analyst can see how customers use the software and how they interact with the user interface.
- Using the analysts' notes, we figure out what's good and where improvements can be made. Using the customers' feedback, we might implement changes in the software that will make a product more useful or easier to use.

Again, this approach is a win-win situation for everyone. Customers find out that we take their feedback seriously and that their feedback can result in changes to the software. This process is good for the customers and it's good for us because that interaction helps us to know what direction to take our products.

Knowing that we have all these different roles, our task is to ensure that the software makes users in every role comfortable. That means our software has to be role-based because you can't write one interface that works for everyone. So, we've tried to make things easier by delivering *fit-to-task interfaces* that make the software more accessible to the various users. We've even developed fit-to-task interfaces that customers can actually customize for their own users. We are also doing a lot of work to integrate the various products, so that you can perform such tasks as viewing a SAS® Web Report Studio report in SAS Enterprise Guide or in SAS® Add-In for Microsoft Office. The fit-to-task capability in SAS Enterprise Guide has been very well received.

Q: What else is SAS is doing to enhance the customer experience?

GK: In addition to creating role-based solutions, we are working to achieve greater consistency among the user interfaces in our products. Dr. Jim Goodnight, CEO, has given the UI analysts a directive to make our software interfaces consistent while still meeting the requirements of all the software products. Dr. Goodnight understands the value of spending the time that is necessary to ensure that consistency. The UI analysts are collaborating closely to fulfill this directive. Our highly trained analysts have made remarkable progress on this task. I think we can look forward to every single release being better and better.

Q: What other development goals do you have for your division?

GK: One of the development goals that we set every year is to improve product performance. And we do! It gets better and better every year. For example, we improved the performance of Multidimensional Expressions (MDX), which we use as a query tool for searching and retrieving multidimensional data in the SAS® 9.1 OLAP Server technology.

Another goal is to tighten integration between other SAS software products and SAS® BI Solutions. This goal complements the idea of adding role-based capabilities. People want to be able to get information and reports as well as to link to stored processes across SAS products.

Q: What BI resources are available for SAS customers?

GK: We have a lot of online resources available that range from white papers to user forums. Customers can find great information on the following Web sites:

- [Customer Support Center User Forums](#): These forums are monitored by SAS, and we try to answer any questions that are posted. There are several forums available, including forums for the following features:
 - SAS® Stored Processes – for discussions about the development and deployment of stored processes as stand-alone applications or when integrated with SAS® BI Server.
 - Integration with Microsoft Office applications – for questions, solutions, and needs related to integrating SAS software and solutions with Microsoft Office applications.

If users want forums for other software products, they should contact SAS via the Web site or ask their SAS Account Representative to give the request to us.

- [SAS® Business Intelligence and SAS® Enterprise Business Intelligence](#)
- [Business Intelligence white papers](#). The paper [SAS® Web-based Query and Reporting](#), which was recently updated, might be of interest to many SAS users.

Experimental Bayesian Capabilities

SAS/STAT software now provides Bayesian analysis in downloadable, experimental versions of three procedures for SAS 9.1.3 on Windows: GENMOD, LIFEREG, and PHREG. The new BAYES statement in these procedures produces Bayesian modeling and inference capability in generalized linear models, accelerated life failure models, Cox regression models, and piecewise constant baseline hazard models (also known as piecewise exponential models). These versions are named BGENMOD, BLIFEREG, and BPHREG, respectively, and they otherwise contain the full functionality of the original procedures.

The following are some highlights:

- Computations use the Gibbs sampler to obtain posterior distributions.
- Convergence diagnostics such as the Gelman-Rubin, Geweke, Heidelberger-Welch, and Raftery-Lewis tests are produced as well as trace plots.
- All procedures offer the normal and uniform prior, and the BGENMOD procedure also provides Jeffreys' prior.
- You can output the posterior distribution to a SAS data set for use in additional analysis.

The experimental BGENMOD, BLIFEREG and BPHREG procedures are being made available through the SAS web site so that users can provide feedback on this new software. The documentation provides an introduction to Bayesian analyses as well as a comprehensive reading list for further information. Additional chapters contain syntax, details, and examples for the individual procedures BGENMOD, BLIFEREG, and BPHREG. These chapters do not repeat information that is included in the SAS/STAT documentation for SAS 9.1.3.

- [Documentation Only](#)
- [Download](#)

Webcasts and events

[SAS Global Forum 2007](#)

April 16-19

Orlando

You only have a few weeks left to take advantage of early bird discounts. Register by March 12 and save \$200!

[F2007, SAS' Business Forecasting Conference](#)

June 4-5

Cary, NC

Join more than 20 of the top forecasting experts in the world to learn the latest theories, trends, and best practices in business forecasting. Early bird discounts expire March 9.