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SAS® BUSINESS REPORT

**Dear Readers,**

The year is winding to a close, but we've got some must-read material for your 2007 planning. In this "how-to" issue, you'll discover how to:

- Save money by using the best data storage solution.
- Use warranty analysis to increase the bottom line.
- Transform your service chain into a profit center.
- Increase your performance management success.

And speaking of 2007, SAS Global Forum (formerly known as SUGI) will be in Orlando in April – and **you** could win an all-expenses-paid trip to attend. Go to [www.sas.com/eiaward](http://www.sas.com/eiaward) to learn more.

Happy holidays!

A handwritten signature in black ink that reads "Anne-Lindsay Beall".

Anne-Lindsay Beall  
Editor, *SAS Business Report*

## Discovering Hidden Aftermarket Profit Streams

**SAS' new service intelligence solution transforms the service chain into a profit center.**

As product margins dwindle under intense global competition, leading-edge organizations are recognizing the untapped goldmine of aftermarket service. Companies can harvest more profits through improved forecasting, suspect claim analysis and reduced inventories while maintaining and even improving customer satisfaction levels.

The challenge lies in connecting the multitude of business processes and disparate operating systems that make up the service chain. To meet this need, SAS has launched SAS Service Intelligence, an integrated family of solutions that monitors, predicts and optimizes a company's entire service chain.

The suite uses the power of the popular SAS® Warranty Analysis solution by combining it with the forecasting strength of SAS® Service Parts Optimization and SAS® Service Operations Optimization to harvest the wealth of data in previously disconnected business units and processes. In addition the SAS solution helps companies gain competitive advantage as they improve quality and performance throughout the service chain, and even feeding timely quality reporting back into design and manufacturing.

### **Post-sale service a top priority**

"Post-sales service ranks among the top three priorities for chief financial officers worldwide, and 68 percent of companies now have a vice president or higher overseeing service performance," says Mark Vigoroso, Chief Research Officer and Senior Vice President, Service Chain Management, Aberdeen Group. "As best-in-class companies scale their technology investments, the key thing to keep in mind is to partner with a technology provider that not only provides a point solution to meet their most immediate need, but also provides a flexible platform to build on in the future."

### **SAS Warranty Analysis in action ...**

For Shanghai GM, a US\$1.5 billion joint venture between General Motors and Shanghai Automotive Industry Corp., implementing the SAS Warranty Analysis solution two years ago marked the starting point for the company to gain a better understanding of its warranty expenses *and* its aftermarket service operation. In fact, Shanghai GM served as one of the inspirations for creating the SAS Service Intelligence suite. "We are making constant progress and after six months of using SAS, we are still discovering new ways of improving our warranty analysis process," said Nanxiang Gao, Warranty Business Representative and Field Performance Engineer within Shanghai GM's Quality Department. "This also has an impact on the efficiency of our after-sales campaigns because now we know exactly how much money is available for after sales."

The new Service Intelligence suite helps companies view aftermarket operations holistically to better retain satisfied customers and build brand image. Companies using the suite gain competitive advantage by recognizing the service chain as one of the keys to developing an ongoing reputation of excellence.

## Better Storage for Better Business Intelligence

Driving down the hidden costs of data warehousing by using the right storage at the right time

By Mark Torr, SAS

Online transaction processing systems, or OLTPs, have been the heart of many organizations for years – handling a constant deluge of transactions from operational applications such as airline reservation systems, point of sale systems or inventory control systems.

There's no doubt about the critical role these systems play. But OLTPs are extremely complex and require significant disk overhead to maintain data integrity during updates. This complexity has led to increased overhead in terms of the database administrators required to manage them and the large collections of costly subsystems used to store the data.

The typical data storage of choice for operational applications that require OLTP capabilities is relational database management systems (RDBMSs) because they have been designed to address the “always-on,” constant stream of small transactions required by operational systems – and still maintain data integrity during the many updates they endure.

Because RDBMSs were functioning well for these operational applications, IT managers at some companies thought it was logical to apply them to other types of applications.

But when you begin to deploy business intelligence applications or take advantage of advanced analytics throughout the organization, relational database management systems fall sorely short as a storage strategy. Today's organizations are seeing increasing data volumes. They're maintaining more historical information. And they're supporting a growing number of business intelligence initiatives with applications that generate large numbers of queries.

It comes down to this: The storage you have in place to support intelligence activities in your organization is now critical to attaining a competitive edge and keeping costs down. Data storage directly affects the speed and agility of your organization and may even be a contributor to costs that you could easily eliminate. As such, it deserves a strategic focus. And if using relational database management systems for these purposes isn't already posing a problem, it soon will, in terms of both cost and performance.

### The risks for business intelligence

RDBMSs were never designed to function outside the world of operational applications. RDBMS vendors continue to claim that customers can overcome the limitations by throwing more hardware – including CPUs, costly storage subsystems and memory – at the problem, which causes an escalation of hardware and software expenses that most organizations didn't plan for.

If we dive down further under the covers of the RDBMS, it becomes obvious why it is not a good strategic storage option:

- RDBMSs were designed to support large numbers of transactions and are required to be able to reverse any failed or truncated transaction to maintain data integrity during update. Their workings, therefore, are extremely complicated, which adds significant disk space overhead. In the BI world, there is little or no need for most of this overhead. This becomes a major issue when you get into terabyte levels of storage because your disks are not being used by your data, but by the RDBMS for no apparent reason. You're actually paying twice: once for the storage the RDBMS uses over and above your raw data and once for its software. This also significantly complicates administration and maintenance.
- RDBMSs must be maintained by specialized database administrators. As you add more RDBMSs into your organization, you'll need to add significant numbers of DBAs. Also, most database administrators are skilled at tuning these systems for operational applications, not strategic BI

applications. This isn't the fault of the DBA; try to find information on tuning an RDBMS for the analytics required for business intelligence applications!

- RDBMSs are designed for a high volume of quick updates and small numbers of simple queries. This means that the high volume of simple queries and the higher-intensity analyses to satisfy business intelligence and analytics requests, such as full table scans or large numbers of long, complex queries from many users, often overload the RDBMS, causing significantly slower response times. RDBMS vendors will suggest you build different tables for different tasks (again increasing complexity and disk utilization) and will insist on different indexes for different styles of usage or simply advise you get a bigger piece of hardware to hide their shortcomings. Again, this complexity will require the help of more database administrators.
- Most RDBMSs are confined to a limited number of platforms, which restricts the architecture's flexibility. Some RDBMSs are even residing on proprietary hardware that, once committed to, can require costly upgrades later.

### **A better storage landscape**

In the business intelligence world, it's common to load massive amounts of data and support large numbers of users who issue lots of queries and can often start long, complex queries. So while you can choose to use an RDBMS for things like business intelligence or analytics, it means you're taking technology designed for one purpose and applying it to a task it was not designed for.

Think of an RDBMS as a truck – a big, bulky, resource-guzzling machine that constantly needs help to keep running. It is entirely out of place in the Formula One car race of business intelligence.

SAS Intelligence Storage is the highly tuned race car. With SAS Intelligence Storage, you can lower your costs and bring an end to the problems associated with using an RDBMS in ways it was never designed to be used.

SAS Intelligence Storage is not an individual offering. Rather, it is a collection of interoperable data stores that have been designed with the intelligence landscape in mind. Each store has been built to suit the needs of the organizational area and the typical skill level of the person who needs to create, manage and use it. For example, SAS has storage options that support:

- Desktop storage, so business analysts can query data locally and data miners can build models that can be deployed against other data stores.
- Subject-specific data marts.
- Multi-dimensional storage to deliver pre-aggregated data to the organization.
- Enterprise data warehouses or certain aspects of the ODS layer.

SAS Intelligence Storage differs from an RDBMS because it has been designed to handle the workload that the operational RDBMS cannot. SAS Intelligence Storage was designed to provide for the loading and storage of vast amounts of data and to support both regular and ad hoc queries from large numbers of users – without the overhead of an RDBMS. In fact, with SAS Intelligence Storage installed at the data warehouse or data mart level, organizations have seen the following benefits:

- Four times less disk space utilization.
- Performance increases by up to a factor of 40.
- Hardware life extended where previously there was an impending cost.
- Newfound freedom to move platforms, which allows the organization to meet modern business requirements at a significantly lower cost.
- Four times less support staff required.

Organizations need to re-examine their storage landscape and eliminate unnecessary overhead and costs. At SAS we stand ready to prove our performance and our lower disk footprint, and show how our

ease of maintenance will help you get the costs associated with your data warehouses and storage back under control.

In addition, SAS Intelligence Storage provides the platform agility and flexibility that allows you to take advantage of the most optimal hardware platform and operating system environments – now and in the future.

## Warranty Analysis Saves Time, Money and Brand Reputation

**Comprehensive warranty analysis moves to the front burner for many progressive companies**

by David Froning, SAS

When was the last time warranty claim issues made it to the top of your operational to-do list? Perhaps it happened after the marketing department complained about a poor review in a consumer magazine. Or worse, when the legal department called to let you know about a lawsuit.

For too many companies, warranty claims are not a high priority unless undertaken to avoid something – angry customers, alienated dealers or a public relations debacle. This holds true despite the fact that warranty claims eat up 2 percent of US company revenue.

Two percent is likely a conservative figure. Think of the financial, legal and image agony tire manufacturers went through several years ago, and then consider:

- How much could your company save if it could mine warranty details quickly enough to isolate defects and stop newly defective merchandise from leaving the factory?
- How much could your company save if it decreased or eliminated the 10 percent of warranty claims that are fraudulent?

### **Analyzing warranty claims to help reduce revenue loss**

The first step to solving the problem: text mining.

For several years text mining has been touted as the solution to warranty issues, particularly the issue of quickly identifying problem areas and fixing them. Instead of technicians trying to select from hundreds of warranty categories or clerks trying to guess which category a technician's written assessment belongs in, text mining software is supposed to "read" written assessments and devise a list of the top warranty areas.

There have been two problems with this approach. First, most text mining systems don't look for changes over time. Often, the software simply spits out a list of the top 20 warranty issues. What happens, though, when a type of freezer defect jumps from a ranking of 81 one week to 41 the next? It's still not on the top 20 list, and its sudden and dramatic jump goes unnoticed.

The second problem? Software that does monitor change has a tendency to throw out too many red flags. Most reporting systems identify which issues have worsened. However, in a stable system half of the issues will get better, and half will get worse. The real question is which issues have become significantly worse.

### **Text mining + analytics = results**

Text mining alone can't identify suppliers providing the largest quantity of defective parts or name service companies that can't get a problem fixed right the first time. By combining text mining with other data analysis, however, companies can quickly spot problems with different manufacturing sites or within a manufacturing plant.

When you combine text mining with analytics, a reliability engineer has so much more information to consider. For instance, analytic-based systems can use text mining results to identify statistically significant changes in failure rates, costs and other metrics. The system can then notify the appropriate engineer, saving months off the issue detection process.

Warranty analysis software can also flag questionable claims so fraud can be detected before the claim is paid. And it can provide executives with a simple-to-read scorecard on warranty issues updated automatically.

If your warranty analysis solution can't do these things, it's time to check out SAS. Wherever competition is fierce, customers' expectations are high and government regulations are stringent, warranty claims analysis will pay for itself.

## **Increasing Performance Management Success**

**A survey of more than 1,100 executives reveals the secret for performance management success: predictive analytics.**

A recent survey of more than 1,100 cross-industry executives revealed that while performance management is seeing much broader use throughout the organization, many companies are still not fully achieving their desired results.

Cultural and technological issues often hold companies back from deriving the most out of their performance management efforts. However, companies that use predictive analytics, and those that align efforts across the organization achieve more of their desired benefits from performance management efforts than those who do not.

### **Barriers to true performance management**

Spending for performance management technology – both build and buy – is growing. This spending is fueled, in part, by the spread of performance management beyond the finance department, traditionally the hub of such activity. According to the SAS survey, multiple departments within the organization have implemented performance management initiatives. Yet, enterprise-wide efforts only account for a third of the deployments, and most other multi-departmental efforts are not aligned.

Despite companies rushing to implement dashboards and scorecards, large investments in performance management do not always yield desired results, the survey shows. Companies face cultural resistance and lack of collaboration across departments, as well as technological barriers such as lack of integration between systems from multiple vendors.

More than one in four companies surveyed cited data inaccuracy as a major obstacle to performance improvement. Yet, among those, only 47 percent perform data cleansing and rationalization. Some firms also expressed concern about being able to deliver a full view of the company's information.

### **Achieving performance management success**

Respondents who have implemented analytics technologies such as data mining and forecasting have achieved greater success than those who have not, specifically in the areas of innovation, competitive advantage, and agility. In fact, success in these areas nearly doubled when predictive analytics were employed.

The most common performance management activities the companies surveyed performed included:

- Measuring performance against goals (83 percent).
- Summarizing financial and performance information at the department level (80 percent).
- Tracking key performance indicators (78 percent).

Findings showed that companies with successful programs didn't employ the activities listed above in isolation but applied a sequential, three-step process:

- 1) Building a solid foundation of reporting information.
- 2) Managing the information by tracking performance against metrics.
- 3) Applying the information to improve the business.

In addition, in those companies where performance management efforts are aligned, the investments are much more likely to yield the desired results. SAS provides the industry's broadest, deepest range of offerings for performance management helping businesses go beyond managing to improving performance.

“SAS helps businesses maximize the effectiveness of their entire organization,” says Becca Goren, Product Marketing Manager for SAS for Performance Management. “To integrate strategies and align business units, organizations rely on the ability to clean and integrate data, and report and visualize performance. SAS provides these capabilities as well as unsurpassed forecasting and predictive analytics -- offering strategic insights for closed-loop improvements.”

## Coastal Federal Credit Union Combats Money Laundering with SAS®

Larger banks and financial institutions have been under pressure to quickly comply with global regulations to implement anti-money laundering (AML) systems. And now credit unions and regional and community banks are also beginning to face similar regulatory scrutiny. After the National Credit Union Administration increased its role as a regulatory compliance watchdog, Coastal Federal Credit Union selected SAS® Money Laundering Detection to stay ahead of regulatory demands.

The SAS solution will help the credit union fortify its anti-money laundering program and adhere to the regulations of the USA PATRIOT Act. The capabilities of SAS' powerful AML software and the company's expertise and proven track record in risk management made SAS the top choice for Coastal Federal Credit Union.

"SAS has demonstrated commitment to the growing credit union market by providing a comprehensive solution comprised of leading analytic and data integration technologies and cost-effective implementation," says Lin Jordan, Vice President of Risk Management at Coastal Federal Credit Union in North Carolina. "SAS offers the power and flexibility of an enterprise-class solution but packaged for a smaller institution's budget."

### **A powerful solution for a smaller budget**

SAS Money Laundering Detection provides the same robust SAS anti-money laundering methodology in a solution tailored for small to midsized financial institutions. With an automated process for detecting, investigating and reporting suspicious behavior, Coastal Federal Credit Union can be more efficient and effective in complying with government regulations.

"While the simplified technology architecture will meet our immediate needs in addressing AML regulations, it also will serve well for our long-term, future needs of driving top-line revenue growth by better understanding our members' behavior," says Jordan.

## Events:

### [CMG2006](#)

**December 3-8, Reno, NV**

Visit SAS representatives in booth #107 to learn more about SAS IT Intelligence, SAS Learning Edition and Grid Computing.

### [NRF 96th Annual Convention & Expo](#)

**Jan. 15-16, New York**

SAS will be at the National Retail Federation conference (booth 1327) to show you how SAS retail solutions strengthen customer and vendor loyalty, and improve profitability.