



## **The SAS® Enterprise Intelligence Platform: An Overview**

*Transform your existing IT infrastructure into a framework for better enterprisewide intelligence*

**SAS®9**



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## Executive summary

Enterprise IT leaders are under intense pressure to achieve more with less — to reduce costs and extend the value of existing investments while increasing strategic contributions to the organization. IT organizations in all industries have had to adapt to a new world in which budgets are constrained and performance expectations are constantly growing.

In years of lean profits and market uncertainty, could the IT infrastructure be doing more to provide competitive advantage? Beyond just supporting operational/transactional systems and point solutions, could the IT organization be the focal point for a new strategic intelligence framework that drives shareholder value?

SAS says yes, and you can achieve this transformation cost-effectively, with reduced implementation times and rapid payback — key considerations as CEOs and CFOs look more critically than ever at projections of returns on IT investments.

SAS has developed an integrated platform for delivering enterprise intelligence. Based on the premise that true business insight requires more than making smart technology investments in individual applications, the **SAS Enterprise Intelligence Platform** is an integrated suite of software that leverages best practices and implementation steps supported by industry-leading technologies.

Each element of the SAS Enterprise Intelligence Platform — from data integration, to storage, to analytics and reporting — adds incremental value to the IT organization. When all these elements are individually optimized and successfully integrated within an enterprisewide strategy, you can consistently and efficiently create the intelligence required to reduce costs, manage risk and proactively respond to market changes. Essentially, you can more easily align IT with the business.

Read on to find out how you can leverage your existing IT infrastructure to deliver substantially greater value to your organization.

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## Key challenges on the path to contributing strategic value

You must be able to quickly align the IT infrastructure to support the dynamic needs of the organization.

Forces such as deregulation, globalization, commoditization and political uncertainty have redefined the risks and rewards in all marketplaces. In this environment, with diminishing margins for error, IT management must be able to quickly align the IT infrastructure to support the dynamic needs of the organization. After all, IT is counted on more than ever to provide the capabilities that enable their organizations to reduce costs, allocate resources optimally and attain revenue targets, while maintaining acceptable risk and service levels.

Many IT organizations have had some success in addressing the cost side of the equation by automating processes and making operations run faster with ERP systems. But faster does not necessarily mean better. To be better, you must go beyond automation. Your competitors have installed the same ERP systems. How does that give your organization a competitive edge? To be better, you need scalable, agile technology that enables your company to make smarter decisions and act more intelligently. Are your current systems and technologies holding you back? Are you facing issues such as these?

- **It's extremely difficult to derive sufficient intelligence from your existing infrastructure — or to get the funds to improve it.** With huge investments already sunk into massive, enterprisewide operational applications, CFOs are in no mood to authorize additional investments to try to squeeze intelligence from those systems — intelligence that many thought would be available in the first place. This leaves IT in the uncomfortable position of trying to meet the rapidly increasing demand for strategic intelligence with an infrastructure that simply is not up to the task.
- **Your organization is supporting overlapping and redundant systems.** Individual business units often purchase non-standard and redundant applications and storage, independent of a corporate IT plan. Unstructured growth leaves the IT organization responsible for supporting multiple applications and platforms that may have overlapping functions. Workload escalates along with costs, complexity, niche training requirements and a growing list of third-party vendors to manage.
- **IT is not viewed as a strategic partner in achieving enterprise objectives.** In an environment where many IT departments are trying to break free from the label of “cost center,” too many IT resources are spent trying to ensure that stand-alone silos of technology work together — clearly a non-value-adding activity. Add to that a history of cost overruns, long implementation times and questionable ROI, and it's no wonder that in many organizations, IT faces an uphill battle to demonstrate strategic value.

These challenges call for a vastly improved framework for delivering enterprisewide intelligence. What's needed is an integrated solution that provides a clear path for transforming disparate data and systems into an efficient flow of information — and one that delivers access to the insights that drive value for your organization.

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## Optimize your existing infrastructure with the integrated SAS Enterprise Intelligence Platform

SAS has developed an integrated platform for delivering enterprise intelligence. This platform, which we call the SAS Enterprise Intelligence Platform, optimally integrates individual technology components within your existing infrastructure into a single, unified system. The result is an information flow that transcends organizational silos, diverse computing platforms and niche tools — and delivers access to the insights that drive value for your organization.

The SAS Enterprise Intelligence Platform extends the value of your existing systems while setting the stage for new levels of enterprisewide intelligence not previously possible. In the process, you'll jump-start the evolution of the IT organization from cost center to strategic partner.

### Components of the SAS Enterprise Intelligence Platform

The SAS Enterprise Intelligence Platform allows you to optimally configure the technology components within your architecture to deliver intelligence throughout the organization at the lowest total cost of ownership and with the fastest time to intelligence.

- **SAS Data Integration** provides prebuilt, high-performance capabilities for data connectivity, data quality, ETL (extract, transform and load), data migration, data synchronization and data federation.
- **SAS Scalable Intelligence Server** is a dedicated solution that efficiently stores and disseminates information for business intelligence and analytic requirements, offering relational and OLAP storage options from the same foundational inputs.
- **SAS Analytic Intelligence** is an integrated environment for predictive and descriptive modeling, forecasting, optimization, simulation, experimental design and more. SAS Analytic Intelligence leverages existing data and infrastructure to support effective decision making and integration into business intelligence environments.
- **SAS Business Intelligence** delivers a set of BI capabilities that enable different types of users to surface meaningful intelligence from consistent, companywide data.

As part of an integrated platform, all components and services are managed from a single point, reducing the administrative effort for maintenance of applications, users and security. Data consistency is assured because metadata is stored in a single metadata repository and is shared across all SAS technologies and solutions. Supporting a wide range of open standards, the SAS Enterprise Intelligence Platform has been designed to facilitate integration with existing IT infrastructures.

When integrated into a single, cohesive technology platform, these components help you optimize your current intelligence environment and better align IT with the strategic objectives of the organization.



With SAS' detailed understanding of the business of IT, which spans mainframes to client-server systems, from legacy applications to secure Web-based information delivery to unmatched analytic depth, the SAS Enterprise Intelligence Platform empowers your IT organization to:

Because SAS technologies are standards-based and platform independent, it doesn't matter what hardware you are using now. SAS technology is transportable and adaptable as your organization's needs change and grow.

- Deliver a rational enterprisewide intelligence strategy, providing actionable intelligence that supports the changing needs of the enterprise, business units and departments.
- Reduce costs for system implementation, maintenance and training through integrated components and processes that support business units' needs.
- Optimize your current infrastructure while extending the value of previous investments with applications that are written once and can run anywhere.
- Maintain flexibility for future IT evolution with an open, modular, platform-independent, standards-compliant architecture.

This new model of enterprise intelligence creation and delivery cost-effectively brings order to muddled infrastructures and will align IT with the strategic objectives of the enterprise — all while leveraging existing legacy systems and processes.

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## A closer look at the components of the SAS Enterprise Intelligence Platform

Whatever your existing IT infrastructure, SAS can unify it into a platform for enterprisewide intelligence and sustainable profitability in an increasingly uncertain world.

SAS is the only vendor that offers both a comprehensive vision of an end-to-end intelligence platform and the technology to optimize the performance of each component. Because SAS technologies are standards-based and platform independent, it doesn't matter what hardware you are using now. SAS technology is transportable and adaptable as your organization's needs change and grow.

Let's take a closer look at the four components of the SAS Enterprise Intelligence Platform and the benefits of each:

## SAS Data Integration



In most organizations, data is captured in a wide variety of sources and formats, such as ERP and legacy systems, RDBMS, flat files, Web logs and more. It can be difficult to locate, identify and select the data that needs to be extracted, transformed and moved from all these silos of information. Data may be inconsistently represented among platforms, making it difficult to produce accurate and reliable results. Expensive, high-maintenance, customized interfaces may be required just to get reports from legacy and ERP systems. This process might even call for shuttling data onto new platforms to be digestible for analytical and business intelligence systems.

SAS is the only vendor that delivers data integration capabilities that span data connectivity, data quality, ETL (extract, transform and load), data migration, data synchronization and data federation. The SAS Data Integration platform can read and extract all data formats from disparate, heterogeneous platforms. In addition to SQL (Structured Query Language), it offers prebuilt, high-performance capabilities for data manipulations, analysis, data quality and integration. Desktop data cleansing tools provide the ability to quickly and effectively analyze and resolve data quality problems and integrate the transformations into the data integration environment, which translates into reliable information and quick ROI.

SAS Data Integration is platform independent and offers a range of access engines, a multithreaded transformation engine, integrated data quality transformations, end-to-end metadata and an easy-to-navigate graphical interface. The benefits touch all facets of your data integration strategy, allowing data managers to:

- **Develop data integration processes faster** at lower cost with easy-to-use metadata management tools, full support for SQL capabilities, a wide range of predefined transformations, and out-of-the-box access engines to industry-leading RDBMS and ERP systems.
- **Reduce cost of ownership** by taking advantage of standard and customized data cleansing capabilities that resolve quality and consistency problems and reduce the ongoing costs of data stewardship.
- **Ensure robust data delivery** in multiple vendor environments, with a single-platform approach and powerful transformation language. Data integration processes can take place on the platform where the data resides, thereby reducing network traffic, data duplication and hardware requirements.
- **Extend the value of legacy systems, hardware and ERP investments.** There's no need to prematurely retire legacy systems or invest in customized interfaces just to get reports from legacy data sources.

SAS is the only vendor that delivers data integration capabilities that span data connectivity, data quality, ETL (extract, transform and load), data migration, data synchronization and data federation.

## SAS Scalable Intelligence Server



The typical enterprise faces several data storage challenges that inhibit enterprisewide intelligence. Information typically resides in isolated islands serving separate business units, even on different platforms, such as UNIX and mainframe systems. In this scenario, how do you offer users a unified view of all information held throughout the organization?

SAS Scalable Intelligence Server typically improves loading and query performance by an order of magnitude, compared to orthodox RDBMS configurations.

The emergence of analytic and business intelligence applications strains traditional relational database management systems (RDBMS), which were not designed to search large tables of information for small amounts of user-requested data. They also were not designed to produce the summarized reports demanded by modern business intelligence applications, or the intensive simulation and modeling requirements of advanced analytic applications.

SAS Scalable Intelligence Server is a dedicated solution designed to efficiently disseminate information for business intelligence and analytic applications — from SAS or third parties. SAS offers relational, OLAP and parallel storage options to suit all types of application profiles. This includes everything from simple reporting and OLAP dissemination to advanced forecasting and data mining. An open, integrated metadata framework enables these storage and dissemination options to be provided transparently to a wide range of applications and environments.

SAS minimizes overhead and maximizes input/output (I/O) performance by using fixed record lengths, advanced indexing, large block sizes and by eliminating two-phase commit processing. Together with multithreading and physical partitioning, SAS Scalable Intelligence Server typically improves loading and query performance by an order of magnitude, compared to orthodox RDBMS configurations.

## SAS Analytic Intelligence



Business intelligence is about gathering knowledge about where you are today and where you've been in the past. It can answer questions such as "What happened?" and offers valuable perspectives at a basic level of understanding. Analytic intelligence, however, offers rich insights that go much further than the answers BI provides.

In fact, analytics often uncover tough questions or alternative courses of action previously not even considered. With SAS Analytic Intelligence you can anticipate the future and tackle strategic policy decisions such as "How are today's actions likely to impact us tomorrow, and what will the ongoing best course of action ultimately be?"

Organizations face numerous challenges in generating these forward-looking insights:

- How do you design architectures and processes to tightly integrate modeling with operations without affecting the performance of operational systems?
- Can one solution meet the diverse requirements of all types of users, share modeling results among them and be open to third-party tools?
- What is the best way to model scenarios requiring access to old data (historical trends) as well as new recent transactions to provide revenue forecasting, Web mining of customer feedback studies, quality improvement, simulation and process optimization — contexts in which most business intelligence applications fall short?

SAS Analytic Intelligence provides best-in-class modeling capabilities for discovering the complex relationships between dynamic factors that impact organizations today. The results from mathematical formulations and discoveries can be shared with upper management and decision makers through open integration with business intelligence applications.

SAS delivers the widest portfolio of analytics — algorithms, visualization techniques, flexible data exploration and manipulation capabilities — that produce accurate models. These capabilities can be applied to a large number of research and industry scenarios, enabling you to choose a targeted capability rather than compromising by force-fitting lesser, poorly coordinated tools.

A range of client interfaces include "smart" defaults for non-technical users and are extendable so that advanced analysts and statisticians can incorporate advanced modeling capabilities through the same interface. SAS minimizes cost of ownership, delivers a familiar environment for all departments and levels of users, provides consistent performance to end users, reduces IT overhead for maintenance and minimizes training requirements.

SAS Analytic Intelligence provides best-in-class modeling capabilities for discovering the complex relationships between dynamic factors that impact organizations today.

SAS Analytic Intelligence builds on all of the previous components to deliver unmatched business insights:

- SAS Analytic Intelligence is integrated with powerful SAS Data Integration capabilities, which access and read all relevant source data formats and preprocess them to be analysis-ready.
- SAS Analytic Intelligence leverages the SAS Scalable Intelligence Server architecture, which ensures premium performance and seamless exchange of data and metadata between SAS Business Intelligence and SAS analytic applications.
- SAS Analytic Intelligence supports the emerging PMML standard for exchange of scoring code to retain existing software investments. Third-party applications and languages can invoke SAS analytic services to leverage existing applications, developer skills and familiar interfaces.

## SAS Business Intelligence



SAS Business Intelligence empowers users by giving them access to information in the format they need, when they need it.

Distributed teams, managers and executives need accurate, up-to-date information for decision making, and they need it faster than ever. Having IT process all their queries creates expensive and time-consuming bottlenecks. Using multiple point solutions creates confusing and unreliable results because intelligence is not based on a common model of corporate data or corporate standards for surfacing information to business users.

SAS Business Intelligence empowers users by giving them access to information in the format they need, when they need it. SAS provides the full breadth of capabilities to meet user skill levels and needs, enabling users to generate their own answers while IT retains control over the quality and consistency of the data.

Fully integrated with SAS Data Integration, SAS Business Intelligence can incorporate all data required for analysis, regardless of data source or format. This integration also ensures that data used in analysis is complete, sequenced and properly cleansed — without excessive proliferation of metadata, a common problem in legacy business intelligence architectures.

SAS Business Intelligence clients can transparently re-use SAS analytic procedures without the users needing advanced skills in statistics or support from IT. Analysts and business managers can seamlessly integrate analyses of the past into accurate models and forecasts of the future.

SAS Business Intelligence creates a collaborative domain that links previously isolated specialists in statistics, finance, marketing and logistics. The whole user community has access to company-standard analytical routines and reporting templates. This not only produces consistent, trustworthy results; it fosters greater cooperation and partnership among disparate teams.

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## Calculating the cost

Does this end-to-end strategic vision sound like a budget-burdening overhaul? Actually, it's not. SAS extends the value of systems and data you already have. Each component of the SAS Enterprise Intelligence Platform adds incremental value to the IT organization. Even if you focus only on a single element, SAS can help you derive significantly greater value from your existing enterprise architecture.

A much greater cost to consider is the price of inactivity. Incomplete, inefficiently generated intelligence costs the enterprise far more — not only in missed revenue opportunities, but in cash outlays wasted on niche software products and incompatible applications that are hugely expensive to integrate and maintain, yet still cannot provide a consistent version of the truth.

Each component of the SAS Enterprise Intelligence Platform adds incremental value to the IT organization.

Even if you focus only on a single element, SAS can help you derive significantly greater value from your existing enterprise architecture.

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## Summary

The SAS Enterprise Intelligence Platform represents an integrated platform for delivering enterprise intelligence that extends the value of your existing IT infrastructure. With our detailed understanding of the business of IT and integrated, industry-leading technologies across the entire intelligence creation process, SAS can help you implement an enterprise intelligence and better align IT with the strategic objectives of the organization.

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## From SAS, the first name in enterprise intelligence solutions

For nearly three decades, SAS has been helping customers realize the full potential of enterprise-wide intelligence. Through listening to our 40,000 customers across every industry — including 96 of the top 100 companies on the FORTUNE Global 500® — SAS has developed an integrated platform for delivering high-value enterprise intelligence.

This platform, which we call the SAS Enterprise Intelligence Platform, optimally integrates individual technology components within your existing infrastructure. SAS is the only vendor that completely integrates leading data integration, storage, analytics and traditional business intelligence applications to create intelligence from massive amounts of data.

Let us show you how the SAS Enterprise Intelligence Platform can deliver immediate and sustainable rewards for your organization. Whatever your existing infrastructure, SAS can transform it into a foundation for enterprisewide intelligence and sustainable profitability in an increasingly uncertain world.

For more information about the SAS Enterprise Intelligence Platform and the specific SAS technologies that support it, visit us at [www.sas.com](http://www.sas.com).





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