



## SAS® REAL-TIME DECISION MANAGER

Increase value of real-time customer interactions with industry-leading analytics and industry-standard technology

### What does SAS® Real-Time Decision Manager do?

SAS Real-Time Decision Manager combines SAS Analytics with business logic and contact strategies to deliver real-time decisions and recommendations to interactive customer channels such as the Web, the call center, point of sales (POS) and ATM.

### Why is SAS® Real-Time Decision Manager important?

Using the strengths of the SAS Enterprise Intelligence Platform, SAS Real-Time Decision Manager provides an extensible, open architecture, enterprise-class solution with the capabilities and performance required for 24/7 operational environments. The solution easily integrates with existing systems and infrastructures, delivering comprehensive customer intelligence based on an integrated, multichannel customer view.

### How does SAS® Real-Time Decision Manager ease IT workload?

A visual design interface allows for rapid development with components that can be reused – removing the need for specialized application development skills. A centralized management platform allows for rapid application deployment – minimizing the impact of system changes, mitigating project risk and meeting new user requirements in a timely manner.



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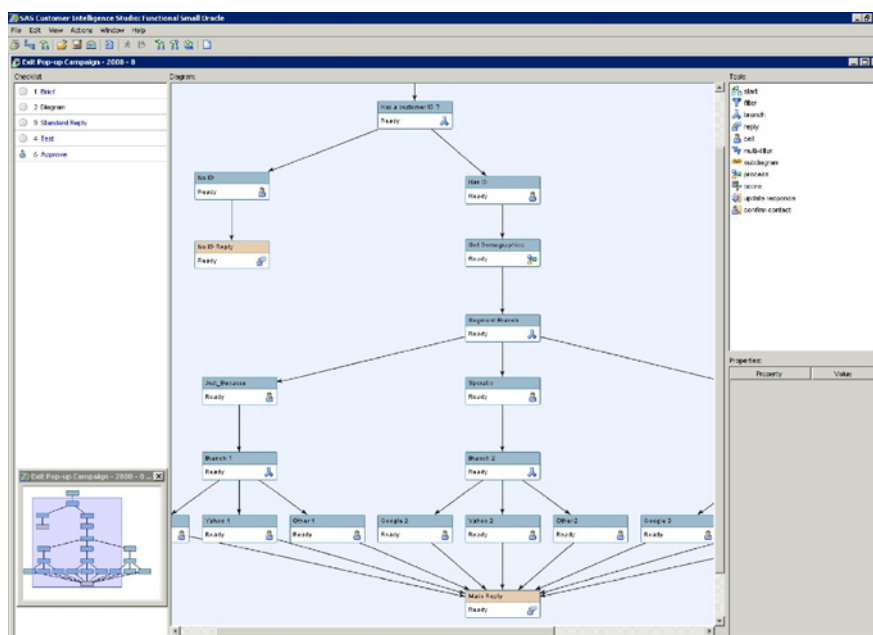
### Overview

As competition stiffens in the ever-changing marketplace, organizations are finding it necessary to shift from a strategy that focuses on product differentiation to one that focuses on enhancing the customer experience. Successful implementation of this strategy can provide a unique and sustained competitive advantage, enabling organizations to rapidly respond to changes in market dynamics. By employing innovative interactive marketing tactics, such as real-time decision making, organizations can realize significant improvements in sales and retention, revenue and profitability, and the overall customer experience.

Previously, implementing real-time decision making was difficult and resource consuming. The typical approach required hard coding of business and analytical logic into applications. This

required business users to describe what they needed to IT staff, which then spent weeks and months implementing the business user's request. Such a lengthy process often resulted in missed opportunities due to the delay in deploying the change, or the incorrect execution of customer strategy due to misunderstandings between the business user and the IT staff. These issues multiplied when changes were required for multiple channels, requiring coordination of both the strategy and the timing. By the time everything was successfully implemented, new changes were required due to rapidly changing market and customer needs. As a result, the whole process would have to start over again.

SAS Real-Time Decision Manager, a powerful real-time decision support solution, enables organizations to easily keep pace with market and customer demands — without overtaxing IT



SAS® Real-Time Decision Manager allows users to build simple or complex decision processes using an intuitive graphical interface.

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resources. Through an interactive user interface, business users can construct and implement decision criteria that allow them to manage critical customer interactions across all channels. Since business users are implementing the decision criteria, fewer IT resources are required to rapidly deploy customer strategies to channels while still ensuring that strategies are implemented correctly.

SAS Real-Time Decision Manager interacts with customer touch points (e.g., call center, Web applications, POS and ATM) and back-end enterprise systems via Web services. High performance 24/7 operation is assured through a multi-tier architecture that enables clustered deployment. This ensures that the best decision about a customer is provided for all channels, regardless of the transactional volume.

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### Key benefits

- **Utilize current IT environment to automate the decision process during real-time customer interactions.** SAS Real-Time Decision Manager has a service-oriented architecture that supports rapid integrations to customer touch points, enterprise systems and Web services. Sophisticated SAS Analytics can be incorporated into real-time decision making without requiring any additional development. Existing customer data can be utilized along with real-time transactional data as part of the decision-making process. SAS Real-Time Decision Manager leverages other SAS solutions and technologies in order to plan, implement and monitor your real-time decisions. Additional capabilities can also be added by developing SAS programs.

- **Reduce the IT resources required to implement customer interaction strategies.** With SAS Real-Time Decision Manager, new decisions can be developed and tested without coding or using specialized IT resources. Automated decisions are repeatable and reusable, improving the cycle time needed to adapt to changes in customer preferences or the market. Strategies across multiple channels can be easily managed through a single decision repository that's integrated with multiple customer touch points. SAS Real-Time Decision Manager is a component of the SAS Customer Intelligence platform, reducing the cost and effort to support and coordinate multiple platforms.
- **Provide reliable customer decisions that enhance the customer experience and operational efficiency.** While SAS Real-Time Decision Manager can be run on as little as a single server, it supports server clustering to provide quick and appropriate real-time interactions, in ultra-high volume operational environments such as call centers and self-service Web applications. A multi-tier architecture ensures that server configuration can be modified to adapt to changing business needs and strategy. Security of decision process construction and modification ensures that only qualified persons can impact critical customer decisions.

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### Product overview

SAS Real-Time Decision Manager automates the decision-making process for high volume, customer-facing systems. This enables organizations to execute their strategies across channels in a consistent and focused approach. These processes are constructed by business users in an interactive, visual

environment. Business users can create decision processes that interact with multiple data sources, and apply various advanced analytic techniques and business logic. As a result, organizations can make decisions that enrich the customer experience and increase profitability.

### Open architecture

SAS provides a services-oriented approach to changing business strategy without placing a heavy burden on IT resources. SAS alleviates the need to embed your decision logic in operational systems, which can be time-consuming and expensive. Decision strategies are constructed from a set of highly reusable out-of-the-box tasks that can be augmented with custom tasks that use SAS programs. SAS provides a robust framework to ensure that the same criteria are used to create consistent communication and treatment of customers across channels, products and business units. With SAS, organizations work from a centralized repository of business logic and analytics that can be easily updated and deployed as a Web service across a heterogeneous IT environment.

### Enterprise-class performance

Customer experience can still suffer even if the right decision is being made when decisions aren't timely or consistent. SAS helps you deliver a high-quality customer experience by providing a solution that has the enterprise architecture to support high volume 24/7 enterprises. SAS Real-Time Decision Manager's multi-tier architecture with server clustering capabilities ensures that intelligent customer decisions can be delivered, regardless of transactional volume. Failover and sophisticated error handling capabilities guarantee that a decision will be delivered to the customer even when there are complications during decision processing.

## Real-time analytics

A rules-based approach in making decisions allows you to explicitly define and standardize how a customer should be treated during an interaction. However, this approach has its limits when trying to predict customer behavior or optimize strategies. Analytics in combination with business rules allows you to leverage historical data and real-time data in order to make the best possible decisions about the customer. SAS Real-Time Decision Manager leverages the SAS analytic platform to provide a wide array of analytic capabilities that can be deployed in the decision making process — including customer lifetime value, propensity, attrition and credit risk modeling.

## Agile construction of decision processes

SAS reduces the decision implementation and deployment time by providing a graphical user interface to construct decision processes. This enables users to visually and intuitively design a decision process instead of having to codify it into cryptic programming and rules. The processes are constructed from a set of reusable out-of-the-box tasks that are dragged and dropped to construct processes. A set of commonly used tasks are available with the solution, but can be augmented with reusable custom tasks that use SAS programs. The amount of effort and resources needed to deploy and incorporate analytics into the decision process is also reduced by integrating with SAS Model Manager.

## Data connectivity

SAS provides the capabilities needed to access all the information necessary to make an appropriate offer or communication. This may include historical information (e.g., past interactions, profiles, preferences, etc.) in-session information acquired during a real-time interaction (e.g., call center conversation,

## Key features

### Open architecture

- Based on the SAS®9 platform so you can leverage your current SAS resources and investments.
- Standards-based, service-oriented architecture that deploys SAS Analytics into high-volume, real-time computing environments.
- A centralized repository of business logic and analytics that can be easily updated and deployed across the IT environment.
- An extensible framework that allows new capabilities to be added via development of SAS programs.

### Enterprise-class performance

- Failover and error-handling capabilities that allow decisions to be delivered when processing complications arise.
- Server clustering capabilities that ensure decision delivery regardless of transactional volume.
- Multi-tier architecture allows deployment of multiple SAS Real-Time Decision Manager servers.
- Java Management Extension (JMX) based framework for monitoring and managing the run-time servers via the SAS Management Console.

### Real-time analytics

- Analytic capabilities such as customer lifetime value, propensity, attrition and credit risk modeling can be implemented in the decision-making process.
- Analytics can be combined with business rules to provide optimal decisions about the customer.
- The comprehensive and integrated SAS Analytical platform is utilized to implement analytical models.
- Both real-time and historical data can be accessed and used as part of real-time analysis.

### Agile construction of decision processes

- Decision processes can be rapidly constructed as diagrams with an interactive graphical user interface using highly reusable out-of-the box tasks.
- A common graphical user interface is shared with SAS Marketing Automation in order to reduce cost and effort related to managing inbound and outbound marketing.
- Integration with SAS Model Manager allows for rapid verification and deployment of SAS algorithms that can be used in real-time decisions.
- High reusability via “subdiagrams” that can be used and shared by other decision diagrams. This allows complex decision diagrams to be built by combining simpler ones.
- Individual, group and role-based security is supported at the business process level, enabling proper separation of personas.
- Support the deployment of decision processes from design to test to production servers via the SAS Management Console.

### Data connectivity

- All types of data – including a customer’s historical information, in-session information from real-time interactions, and market factors data – can be accessed to make an appropriate offer or communication to the customer.
- Contact and response history is collected for driving additional customer interactions, evaluating current strategy effectiveness and planning future strategies.
- A contact and response history are shared with SAS Marketing Automation so that results of outbound and inbound customer interactions are seen by both solutions.
- Supports the SAS Customer Intelligence common data model and reporting infrastructure, allowing for development of detailed reports with business intelligence tools, including the SAS business intelligence suite.
- Web service interface is provided to access customer information from additional data sources.

Web survey, Web site interaction), and market factors (e.g., product inventory, prime rate). Additional data from other systems can be accessed within the decision process via Web service calls. All this information can be inputs into both rules-based and forward-looking predictions of customer behavior to provide a highly personalized message during each interaction that ultimately improves response rates.

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## Technical requirements

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SAS Real-Time Decision Manager is a multi-tiered, standards-based, J2EE solution built on the flexible SAS Enterprise Intelligence Platform. No other marketing software product can match the performance, robustness and degree of integration provided by SAS.

### Client Applications

#### Supported platforms

- Windows XP Professional

### Mid-Tier Applications

#### Supported platforms

- Sun Solaris for SPARC

#### Required products (included in package)

- SAS Real-Time Decision Manager Operational Mid-Tier 5.1
- SAS Real-Time Decision Manager Design Mid-Tier 5.1

#### Additional software required

- IBM WebSphere 6.0.2.19
- IBM WebSphere MQ 6.0
- Xythos WebFile Server

### SAS® Application Server Tier

#### Supported platforms

- For SAS Real-Time Decision Manager Server: Sun Solaris for SPARC
- For SAS Real-Time Decision Manager Metadata Server: AIX, HP PA-RISC, HP IPF, Sun Solaris for SPARC, and Windows 32-bit

#### Required products (included in package)

- SAS Real-Time Decision Manager Server 5.1
- SAS Real-Time Decision Manager Metadata Server 5.1

#### Database Compatibility

SAS Real-Time Decision Manager 5.1 can connect to Oracle 9i using SAS/ACCESS® (included in the package).

#### Optional software

- SAS client and mid-tier require JRE 1.4.2\_09.
- Microsoft Internet Explorer 6

*Please contact your SAS representative with any additional questions about technical requirements.*



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