What does SAS® Real-Time Decision Manager do?
SAS Real-Time Decision Manager combines SAS Analytics with business logic and contact strategies to deliver enhanced real-time recommendations and decisions to interactive customer channels, such as websites, call centers, point of sale (POS) locations and automated teller machines (ATMs).

Why is SAS® Real-Time Decision Manager important?
SAS Real-Time Decision Manager helps you make smarter decisions by automating and applying analytics to the decision process during real-time customer interactions. By successfully meeting each customer’s specific needs at the right time, the right place and in the right context, your business can become more profitable.

For whom is SAS® Real-Time Decision Manager designed?
SAS Real-Time Decision Manager provides distinct capabilities for marketers who define communication strategies, executives who need reports on marketing effectiveness, business analysts who model and predict customer behavior, and campaign managers who create target customer segments.

SAS® Real-Time Decision Manager
Go beyond what a business rules engine can provide to add context to your real-time customer interactions

Overview
As competition stiffens, organizations must shift their focus from product differentiation to enhancing the customer experience in order to create a unique, sustained competitive advantage and enable rapid response to changing market dynamics. Innovative, interactive marketing tactics, such as real-time decision making, can prompt significant improvements in sales and retention, revenue and profitability, and overall customer experience.

In the past, implementing real-time decision making was difficult and resource-intensive. Business users would describe requirements to IT staff, who would spend weeks or months “hard coding” business and analytical logic into applications. Frequent miscommunications resulted in missed opportunities and incorrect executions. By the time everything was implemented, market conditions and customer needs had often changed, so the process had to start over. Multiple channels magnified problems, because that meant coordinating both strategy and timing.

SAS Real-Time Decision Manager has changed all that, enabling organizations to keep pace with market and customer demands without straining IT resources. Combining SAS Analytics with business logic and contact strategies, the solution delivers intelligent, real-time recommendations to multiple, interactive channels – websites, call centers, POS, ATM locations, etc. The software can recommend next best actions and make analytically based decisions about credit authorizations, fraud analysis, complaint handling and more, enabling you to meet each customer’s needs at the right time, the right place and in the right context.

Key Benefits
• **Automatically make the right decisions.** Decision logic alone isn’t enough. With analytics, you get much deeper insights – derived from things like customer lifetime value, propensity, attrition and credit risk modeling. Combining analytics with decision logic enables even better decisions about your inbound communications. As a result, you can deliver highly relevant, interactive offers in real time – even in high-volume environments – based on automated analytical techniques, not business presumptions.

• **Meet customer needs - right offer, right time, right channel.** Make “next best action” an integral part of your marketing strategy. Highly granular differentiation is enabled through detailed segmentation, determination of offer eligibility and prioritization – all using analytical insight, which forms the basis for delivering a wide variety of customer propositions.

• **Reduce dependency on IT.** Business users can easily construct and modify the automated decision process – even incorporating SAS analytical models – without IT assistance. A user-friendly interface lets you design decision processes intuitively rather than through cryptic programming and rules using a set of reusable, out-of-the-box tasks, which can also be augmented with custom tasks created from SAS code.
• Handle high-volume customer interactions with ease. The solution’s multitier architecture includes server clustering capabilities that support high-volume, 24/7 businesses, so you can make the best customer decisions exactly when you need to, regardless of transaction volume.

Product Overview
SAS Real-Time Decision Manager automates and enhances the decision-making process for high-volume, customer-facing systems and helps organizations execute focused, consistent strategies across channels.

Business users can construct decision processes in an interactive, visual environment. As they build decision processes that incorporate various data sources, they can apply advanced analytic techniques and business logic. As a result, customer-facing employees can quickly make decisions that enrich the customer experience and increase profitability.

Real-Time Analytics
Get immediate insights and recommended best actions exactly when you need them – during a customer interaction. Analytics provides insight into a customer’s behavior, while decision logic addresses business factors, such as marketing considerations, eligibility rules, contact policy, etc. By combining the two, SAS Real-Time Decision Manager delivers optimal decisions regarding customer contact.

Real-time analytics and business rules are applied to both historical and real-time data, and a wide array of analytic capabilities – including customer lifetime value, propensity, attrition and credit risk modeling – are infused into the decision-making process to ensure relevant, insightful marketing offers in real-time dialogues.

You can also operationalize decisions by combining your existing customer intelligence with insights gained from past and current customer interactions through real-time analytical modeling. The resulting insight, personalization and next best action recommendations can lead to richer, more profitable interactions for you and your customers.

Rapid Decision Process Construction
To reduce implementation and deployment time, SAS Real-Time Decision Manager provides an intuitive user interface for constructing decision processes. Marketers can construct decision workflows using an interactive, visual environment – no complicated coding required. You can even build complex decision diagrams by combining simpler subdiagrams to use and share with other decision diagrams. These decision processes can also interact with multiple data sources, as well as apply various advanced analytic techniques and business logic.

A management console lets you easily move campaigns and decision diagrams from design to test to production. In addition, seamless integration with SAS Model Manager means that SAS algorithms can be rapidly verified and deployed for real-time decisions.

The interactive interface includes drag-and-drop nodes or tasks that can be reused easily, making construction fast and trouble-free. And because the solution shares a common interface with SAS Marketing Automation, managing inbound and outbound marketing is seamless and requires less effort and cost.

Create inbound-based scenarios to address cross-sell, up-sell, retention and loyalty efforts. You can easily generate and deploy diagrams into production environments.
Enterprise Data Throughput

Even if the right decision is ultimately made, the customer experience can suffer when decisions are not timely or consistent. Designed with high-volume, low-latency, customer-facing environments in mind, SAS Real-Time Decision Manager is built on a multitier architecture with server clustering capabilities to ensure that intelligent customer decisions are made and high-quality customer experiences delivered even in high-volume, 24/7 environments.

Failover and sophisticated error-handling capabilities guarantee that the best decision regarding the best customer action will be delivered every time – even when there are complications during decision processing.

Parsing and generating XML messages can be expensive, and may also affect throughput. New Java classes, such as the SAS decision services client application programming interface for Java, enable applications to execute campaigns without the overhead of parsing and generating XML messages.

SAS uses an efficient, proprietary protocol to marshal messages for SAS Real-Time Decision Manager over HTTP. Using this API, a Java application can avoid the overhead associated with parsing and generating XML-based messages and can significantly improve system throughput.

Campaign Testing

Out-of-the-box A/B test nodes enable you to test the effectiveness of a campaign by comparing two different versions of an offer. The most effective version stays; the poorly performing version goes.

Configuring and tracking test results are simple, and campaigns may be used to determine which response is most effective in achieving campaign goals.

Key Features

Real-Time Analytics

- Integration with SAS®9 platform for real-time analytics.
- Integration with SAS® Enterprise Guide® for more complex analytical processing.
- Analytical model housing and lifecycle management via integration with SAS Model Manager.
- Score nodes for calculating customer value.
- Process nodes for querying business rules and information to determine next best actions.
- Brand nodes guide users to take certain paths when moving through a diagram based on information gathered in the decision diagram up to that point in time.

Rapid Decision Process Construction

- Includes reusable, out-of-the-box tasks.
- Ability to create calculated variables without having to write code.
- Campaign components administration by the marketer and not IT.
- Simple, easy-to-follow workflow checklists.
- Ability to view data you are working with in decision creation.
- Both hierarchy and matrix views for assigning treatments to marketing cells.
- PDF diagram documentation for sharing throughout the organization.
- Reusability of nodes, calculated variables, test cases and subdiagrams from other decision campaigns.

Enterprise Data Throughput

- Ability to deliver more than 700 real-time transactions per second into the online channel.
- Ability to achieve response times of 80 milliseconds per transaction.
- Ability to update response history data at a rate of 5 milliseconds per transaction.
- SAS integration utilities allow for simple integration with a variety of third-party applications at the data level.

Campaign Testing

- Out-of-the-box A/B test nodes.
- Campaign analysis capabilities, including more campaign simulation options.
- Ability to test not only entire decision campaigns for their effectiveness, but subdiagrams and certain decision paths as well.
- More detailed response history, which translates to more information about your customers.

Connectivity

- Uses a standards-based, service-oriented architecture to deploy SAS Analytics into high-volume, real-time computing environments.
- Accesses all types of data – including a customer's historical information, market factors data and in-session information from real-time interactions.
- Collects contact and response history and shares it with SAS Marketing Automation, so both solutions can access results of both outbound and inbound customer interactions.
- Supports the SAS Customer Intelligence common data model and reporting infrastructure, enabling detailed reports with business intelligence tools.
You can test campaign effectiveness before launch by using campaign simulation capabilities to determine whether or not the decision flow you have created will be effective in an operational environment. By running simulations, campaign designers can better understand how customers will move through a decision flow and what response rates may look like. You can make adjustments accordingly to ensure that treatments, actions and offers are delivered to customers as intended.

The solution makes it easy to reuse the most effective campaign components in new campaign designs. You can speed the development of new campaigns by copying and pasting complex campaign logic contained within nodes. Calculated variables and test cases can be imported from other campaigns into new campaigns with minimal effort. And subdiagrams within campaign flows can be opened and viewed directly for easy in-depth analysis of the logic.

To learn more about SAS Real-Time Decision Manager, download white papers, view screenshots and see other related material, please visit [sas.com/realtimedecision](http://sas.com/realtimedecision).

For information on configurations and system requirements, please contact your local SAS sales representative: [sas.com/offices](http://sas.com/offices).

Funneling customers through the decision diagram based on past or current data allows marketers to deliver a contextually sensitive offer, often to the segment of one.