What Do Events Have to Do With CRM?

By Sanjeev Sondur and Stephanie McReynolds

Traditionally, enterprise applications have been successful at automating predictable, back-office business processes such as accounts receivable, human resources, and procurement. The introduction of front-office Customer Relationship Management (CRM) applications changes the focus of enterprise applications from automating predictable processes to optimizing businesses around the unpredictable—customer behavior. To optimize CRM business processes, you must be able to monitor, analyze, and act on unpredictable customer events in real-time.

This article will explain how event-driven applications and technologies can be used to monitor and improve customer service.

CRM Requires Event-Based Technologies

Customer interactions are rarely predictable and by their nature are event-driven. A part failure spurs a call into the contact center; a last-minute increase in holiday demand drives requests to reorder through sales representatives; a competitor's recent discount triggers the launch of a new marketing campaign. To optimize these types of customer interactions across the enterprise, businesses need to understand the impact of customer events and evaluate the opportunity to take corrective action. This must occur not just once, but across thousands of customer events that occur daily. CRM systems reveal a wealth of information that helps with:

- Understanding customer relationships
- Identifying bottlenecks
- Improving efficiency
- Addressing a host of business productivity issues.

Most organizations today do a poor job of leveraging the events in their CRM system. Data is tabulated, transformed, and reported long after events have affected the business. This is analogous to driving a car by only looking in the rear-view mirror. So the enterprise can respond only after the fact to customer turnover, lost deals, poor vendor performance, financial strains, and so on. At that point, course-corrective action is no longer a possibility; the business impact has already been felt and senior management can only respond by trying to avoid the accumulation of such events next time.

BAM Solutions to the Rescue

Business Activity Monitoring (BAM) solutions start with CRM system events, add complex event processing and analysis, and make intelligent linkages between events and business impact. The result helps businesses shift from an "identify and respond" mode of management to a "monitor and course correct" mode.

Consider a large financial services company that has 12 inbound call center sites that field calls for their consumer credit card division. Their contact centers process inquiries 24x7. Customers expect high levels of service and security. Meeting those expectations is a significant challenge. Contact center supervisors currently have three major applications that manage the business processes for receiving incoming calls, managing case backlogs, and scheduling agent availability. They rely on a combination of automated and human workflows to ensure these business processes run smoothly across all three applications.

What do their contact center supervisors fear? A disaster in which incoming calls spike, the number of available agents isn't sufficient to keep customer wait times within expected service levels, and because of absences or planned training, no additional agents are ready to transfer the calls and reduce customer wait time. As a result, customer satisfaction drops and the enterprise risks violation of Service-Level Agreements (SLAs).

To solve these issues, the financial services company adopted a BAM application. It does the hard work of aggregating events across all three applications, identifying when the combination of incoming calls, backlog casework, and agent availability is misaligned. The BAM application can correlate events and information from several heterogeneous sources across the enterprise. Then it presents a recommendation, turning a collection of events into business knowledge of a developing situation that can impact the company's business. The BAM application makes the correlation between an emerging business situation and the causal factors while also providing recommendations for avoiding an impact to the business by either automatically making changes to CRM workflows to mitigate the situation or triggering a human workflow through alerts and real-time dashboards that provide visibility into business impacts in two to five seconds of the event. Figure 1 depicts a real-time dashboard that a

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BUSINESS
- A BAM solution can often ensure successful front-office operations, but the success of CRM business processes are often tightly tied to back-office operations.
- The monitoring of thousands of events is required to ensure that customer satisfaction is maximized across the entire customer base.

TECHNOLOGY
- BAM solutions monitor real-time events from heterogeneous systems, analyze them, and provide course-corrective action through either automated or human workflows.
- BAM solutions have been built on event-based architectures to solve problems in which after-the-fact reporting would be too late to avert a potential contact center disaster.

contact center supervisor might use to identify the root cause of SLA non-compliance and make some routing and resource changes to bring the business back into compliance.

How Do They Work?

BAM solutions have been built on event-based architectures to solve problems, such as the one just examined, in which after-the-fact reporting would be too late to avert a potential contact center disaster. They address such situations by monitoring real-time events from heterogeneous systems, analyzing them, and providing course-corrective action through either automated or human workflows. Events are collected when they occur in the system. Because technical events are too low-level to provide any real business relevance, BAM solutions appropriately correlate and process these technical events into complex events that can be evaluated for their business impact. The system uses these complex events to evaluate business process performance and transform this information into the appropriate reports, analytics, and alerts that communicate business activity impact.

The system can automate responses to some of the most common aberrations in the business such as call spikes. By automatically triggering an alternative set of assignment rules for incoming calls during the early stages of an identified call spike scenario, the BAM solution avoids any chance of human delay or error in decision-making. The call spike occurs, but it's managed so efficiently that corrective action is taken before call wait times increase and customer satisfaction is affected. This frees the contact center supervisors to focus on more strategic management issues rather than monitoring call volumes; it also minimizes the opportunities for inconsistent management or human processing errors.

For another example of how BAM can reduce the opportunity for human error in CRM systems, consider a telecommunications company that sells business customers a complex service that requires the delivery of hardware components, infrastructure connectivity, and installation services. The hardware components are shipped directly from a partner company, the infrastructure connectivity requires a site visit through an outsourced consultant, and the appropriate account is set up at headquarters.

For the business customer in this scenario to have a seamless customer experience, the telecommunications company's order manager must carefully select both partner resources and internal resources to manage the delivery of all products and services to the customer by a promised date. In the past, this order manager had only the information about past partner performance and estimated availabilities on which to base partner selection criteria. Once a selection was made and the delivery process kicked off, little could be done to avoid customer disappointment if anything went wrong after order initiation.

This is where BAM comes in. BAM can connect data within the telecommunications company's CRM system and their partner's systems, and identify which partner organizations are most likely to deliver on time and with the highest customer satisfaction, based not only on past performance but also on real-time resource availability. This information can be communicated to the order manager through a system-

Figure 1: BAM Dashboard Showing Real-Time Metrics and SLAs

Figure 2: Real-Time Dashboard Showing Various Order Processing Status and Metrics

generated recommendation or through a dashboard that provides insight into specific partner performance metrics.

Furthermore, should anything go wrong during the process of delivering products or services to the customers, the BAM system that's monitoring the order can alert the order manager to issues and present alternatives to slipping a delivery date. Perhaps there's another supplier that can deliver in time to meet the customer's needs or perhaps the slippage in delivery is due to an inaccurate address, contact information, or technical information updates that can be resolved quickly to get the delivery back on track. Figure 2 displays a distributed order orchestration dashboard, providing end-to-end visibility into order execution.

In a distributed order orchestration application, end-to-end visibility is required as a precondition of customer satisfaction and successful order execution. Customer orders must be traced at various internal and external process stages and monitored for success until delivery confirmation is achieved. Managing one order to completion is a fairly simple task, but when trade-offs must be made over hundreds or thousands of orders, managing the trade-offs requires system automation to optimize management decisions. The monitoring of thousands of events is required to ensure that customer satisfaction is maximized across the entire customer base.

Critical BAM Components for CRM

A BAM solution can often ensure successful front-office operations, but the success of CRM business processes is often tightly tied to back-office operations. Orders can be fulfilled within customer expectations only if manufacturing production is predictable and aligned with customer demand. The global supply chain requires real-time inventory monitoring to keep optimum inventory levels of manufactured products. Package delivery firms such as FedEx, UPS, DHL, and others need to track packages in real-time; this information is as important as the package itself.

The goal of any organization is to have visibility into processes and optimize them for successful outcomes. Whether that occurs via automated or human workflows, solutions such as BAM must ensure that those workflows are adaptable.

Critical capabilities of a BAM solution for CRM are:

- **Collect and correlate technical events into business events: BAM provides an event-collecting in**frastructure that can help organizations collect events in real-time from heterogeneous systems, and correlate and analyze them in a business context or in light of corporate goals. Events from various sources around the organization (also called enterprise-level events) can be pushed into a BAM solution from existing infrastructure components without the need to re-engineer a new solution.
- **Monitor in-flight business processes:** BAM is rapidly evolving to becoming a critical element of large enterprises by providing a real-time monitoring solution on events, services, processes, and people. Events collected in real-time are analyzed and presented effectively on dashboards to help front-line managers make decisions. BAM supports a rich set of visualization tools to better present the picture in understandable dashboards. Alerts can be sent to employees to make them aware of the business picture and help them take actions based on their significance.
- **Act effectively with human or agile system workflow:** Propagating events based on their importance helps with proactive decision-making and corrective actions. One of the challenges for someone responding to an alert is the ability to view the event with clarity and supporting information. Besides providing monitoring and visualization, BAM supports event notification and propagation.

Conclusion

Every bit of information from a customer, order capture, vendor management, order fulfillment, and delivery interaction has value if it can be appropriately monitored, filtered, and transformed into relevant communication about business performance. This requires BAM systems to be aware of events that are indicators of performance impact, to correlate those events with contextual data, and evaluate the impact on the business.

As the time window compresses from days to hours to finer granular moments, these systems must excel in real-time to give businesses an opportunity for proactive management. BAM solutions meet the real-time requirement and can help ensure businesses have a chance to make course-corrective decisions before significant impact is felt. The result is that organizations are better able to align available corporate resources with unpredictable customer events to achieve higher levels of customer service and satisfaction. **bij**

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