



SAP White Paper

BUSINESS ACTIVITY MONITORING

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EXECUTIVE SUMMARY

Effective business execution is difficult. It often requires a high level of automation to deal with complex value chains. It also often requires dealing with the unexpected. You must become aware of critical situations in a timely fashion and then make the right decisions – challenging in today’s fast-moving business environment. Business activity monitoring can help you improve your process execution.

Today’s volatile business climate requires a fact-based understanding of your business processes. You also need to know all the participants in your value chain and understand the broad economic indicators because they are fundamental to your business performance – on both the strategic and operational levels.

Operational performance management is about knowing and managing your business processes – with an end-to-end view to it. It is about knowing and understanding the historical, current, and predictive context of business processes, as well as the details of key performance indicators (KPIs) and associated business activities – in other words, it is about business process insights.

When you can manage operational performance, you also know when significant business events occur so you can take action. Timely notification – combined with comprehensive and actionable insights – is essential. With business activity monitoring, you gain visibility into your business processes and optimize your operational performance.

TYING STRATEGY TO BUSINESS OPERATIONS

Typically, managing business performance helps you understand where your organization is today, formulate your strategy and derive goals, and correlate them with business metrics. By using analytical solutions, you can evaluate the alternatives when making decisions. Once you have made your plans, performance management helps you monitor your performance and benchmark it against performance metrics, highlighting exceptions and providing insight as to why exceptions occurred.

Most core business processes span your enterprise. Many even go beyond it to involve your employees, partners, and customers. Core business processes also involve a variety of IT systems, which business dynamics dictate.

The effective monitoring of complex processes is one benefit that business activity monitoring supports. The real value is that it can alert the appropriate people to relevant, significant business events and provide guidance on how best to resolve the situation at hand.

Monitoring your business activity creates significant value for your enterprise. Whereas managing business performance emphasizes strategy life-cycle management, monitoring business activity focuses on business operations and addresses the management of operational performance. It helps you achieve excellence in your business processes.

A holistic performance management initiative mandates that you seamlessly integrate and synergize both levels – operational and strategic. This approach serves your current and future business-planning mandate by helping you differentiate your company through innovation as you increase efficiency by optimizing business processes.

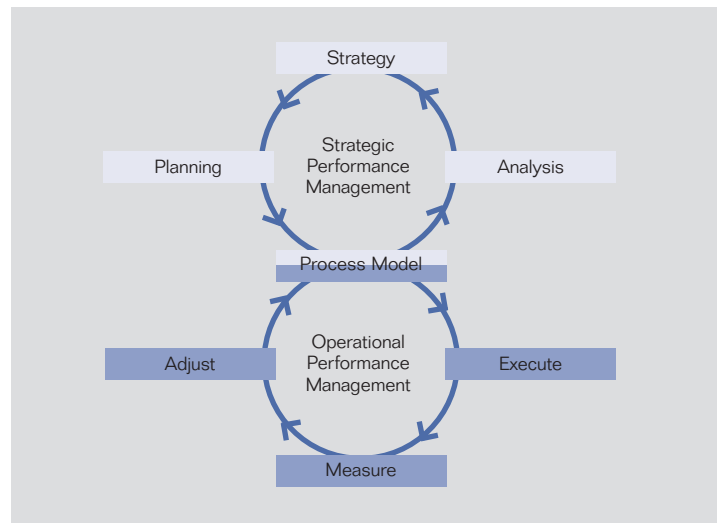


Figure 1: Tying Strategy to Business Operations

UNDERSTANDING BUSINESS ACTIVITY MONITORING

Business Objectives

Line managers and operational decision makers need instant access to critical information. Equipped with this information, they can monitor and manage operational performance, make appropriate determinations, and support executives in their efforts to comply with regulations, such as the Sarbanes-Oxley Act of 2002. To reduce the risks to their businesses, for example, financial institutions need real-time access to financial and other critical information. Manufacturers and retailers also require such visibility into critical business data related to supply chains and customers.

With alerting and immediate access to timely information, administrators and decision makers can manage by exception, which can increase efficiency and effectiveness. Managing by exception lets you review alerts, but not intervene unless corrective action is necessary. It enhances the effectiveness of business users by providing them with visibility into their processes and role-specific, relevant content. Alerts can also provide guidance so that you can handle a process when it alerts you to a significant event. Alerts also help reduce the time required to take action, which often contributes to customer satisfaction and often is key for success and competitive advantage.

A Team Discipline

The previous discussion illustrates that business activity monitoring is an integral part of a holistic performance management solution. It combines disparate business and IT practices, such as business process management with end-to-end process integration, business information management, and user-productivity enablement. To implement business activity monitoring on the business side, you must identify which processes to monitor – beginning with your core business processes – and assign metrics. You must also control your interfaces with your business partners and related service-level agreements.

From an IT perspective, you face some challenging questions. Is your IT landscape flexible enough to respond to business dynamics? Does it allow for an end-to-end view of your business processes? Can your systems deliver consistent and reliable business information? Is it responsive enough to deliver real-time information to the appropriate users?

To answer yes to all of these questions, the underlying infrastructure that supports your company's business processes must be highly adaptive and flexible. Ideally, you benefit from a platform built upon the principles of a services-oriented architecture, which enables you to easily leverage and synergize involved IT practices. In that sense, think of business activity monitoring as a set of functionalities, an overarching framework, which adds the activity ingredient to this platform. This framework is best described as an event-driven architecture that seamlessly integrates and leverages functionalities of your existing platform.

Key Requirements

In addition to security, interoperability, and extensibility, business activity monitoring solutions require other functionality, including alerting and visualization, as well as rules and event handling.

Alerting and Visualization

The degree of sophistication of a business activity monitoring solution comes from its ability to process and analyze events. Its value results from its timeliness, accuracy, and alert functionalities. To obtain the most value from business activity monitoring, your users must accept the solution. User acceptance depends on the solution's convenience level, the simplicity of its user interface, users' perception of its performance, and its task-level integration with other applications. You can use alerts to send notifications to users, prompt specifically scripted actions, or initiate events in other applications.

Rules and Event Handling

Processing and analytical functions, which are at the core of business activity monitoring, ensure that critical business indicators are correctly monitored. Scope and scale are the key issues. Scope involves the types of rules that the solution supports, as well as the ability to obtain and maintain historical context. Scale entails the need for processing and analysis to produce results within a timely window after significant incidents occur.

Process Meets Data

The synergies among business activity monitoring, business process management, and business intelligence require that you place data and events into a business process context throughout your organization. Systems use sophisticated analytical and business rules to recognize and interpret significant events as they relate to other past and present events in business operations. A single business event by itself, for example, may not be significant, but may become so when combined with other events.

How would convergence be accomplished? The common denominator and enabler is metadata. Whereas business intelligence leverages metadata to abstract complex data concepts into meaningful business concepts, business process management utilizes metadata when defining business process characteristics.

Example: Opportunity Management

A customer relationship management scenario offers a useful example of the process of opportunity management as it relates to the conceptual and functional attributes of business activity monitoring. Opportunity management processes help you gain complete visibility into your pipeline. You can track, qualify, and distribute opportunities to the appropriate sales professionals and monitor the conversions of opportunities into revenue.

By implementing opportunity management processes, you can achieve several business objectives, including the following:

- Improved customer service from your enhanced ability to:
 - Collaborate with business partners
 - Improve forecast accuracy
 - Provide a single face to the customer
 - Improve quality and accuracy
 - Shorten proposal and quotation cycles
 - Strengthen partnerships and account management functions
- Increased revenue from your ability to:
 - Improve the generation and processing of sales leads
 - Maximize profitability by customer
 - Improve retention of sales personnel
- Reduced operating costs and increased efficiency from your ability to decrease transaction costs

An ideal opportunity management solution allows sales professionals complete visibility into each sales opportunity. Sales organizations can capture, manage, and monitor potential opportunities' business contact and account information, including the identities of key decision makers, sales histories, milestones, progress, outbound activities, and internal tasks. Your sales team can also ensure effective and consistent sales processes across your sales organization by implementing selling methodologies based on company best practices.

Opportunity analysis functions help you evaluate, in detail, opportunities and the processes involved in the opportunity stage of the sales cycle. They provide data about predicted sales revenue from opportunities, expected product revenues, and opportunities in the pipeline. You can also use the results of opportunity analyses for your future sales strategies. You can, for example, analyze competitor information to create target groups for future marketing campaigns.

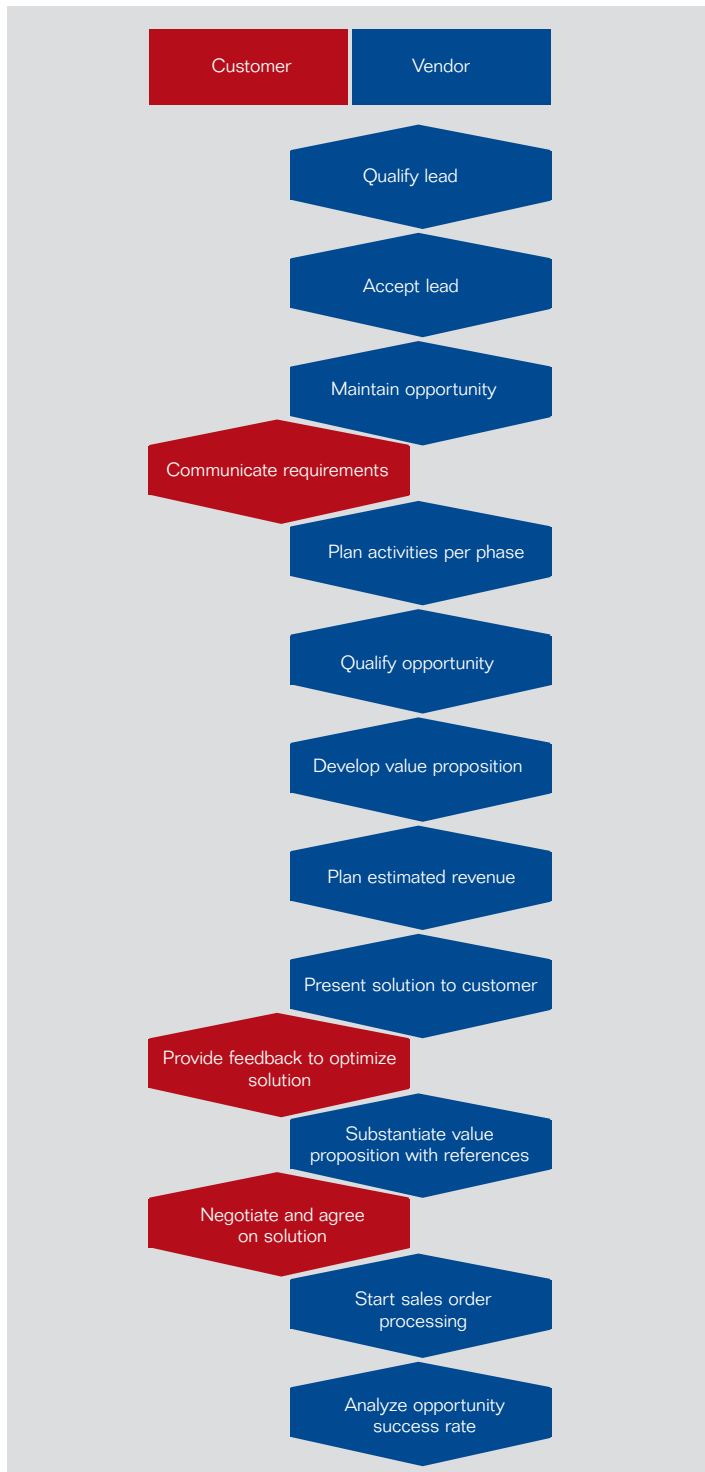


Figure 2: Opportunity Management: Business Scenario

Opportunity Analysis Scenario

The following scenario demonstrates the steps involved and the value of business activity monitoring. As a regional sales manager, Colleen McMurphy managed a team of sales representatives, ensured that her region and product portfolio met their revenue targets, and oversaw the entire opportunity management process.

On a typical working day, McMurphy checked her calendar, mail messages, and news reports. Suddenly she is alerted that she was at high risk to miss her sales goals for the current quarter. Surprised, because it was early in the quarter, she used the resolution dashboard to navigate to the data provided to analyze the alert in more detail.

One glance at the information told her the situation was worse than she had believed; instead of involving one of the top three volume opportunities, the problem affected almost half of her sales force and several solid opportunities throughout the quarter. Prompted with the competitive information, she accessed significant news reports related to her firm's main competitor, which was in discussions to merge with a global service provider. The merger would let her competitor deliver products and full services to small and midsize enterprises at 65% below their normal prices.

Maneuvering to the resolution area, McMurphy explored the guidance function, which suggested she deliver the information to her manager. Employing relevant data within the alerts details, she viewed a prompt that suggested various ways to contact the sales representatives involved. She issued an inquiry to the competitive intelligence team for a detailed report, and two hours later she met with the appropriate people to discuss how to resolve the situation.

Within the business framework involving opportunity management functionality, McMurphy's alert required complex event processing. Processing included the use of business rules from predictive services, which deliver key figures involving forecast simulation, opportunity development, and monitoring and analysis of key competitive information. The system also helped McMurphy evaluate the event, determine its appropriate recipient, and then respond to and take control of the situation in a timely fashion. The resolution dashboard provided her with a top-down approach to details, all relevant information, and a structured approach to subsequent actions.

SAP® SOLUTIONS FOR BUSINESS ACTIVITY MONITORING

The SAP NetWeaver® platform supports business activity monitoring in three primary ways:

- Process integration functionality provides a process-centric structure for monitoring business activities, including business events of non-SAP sources.
- Business intelligence functionality initiates events based on analytical insights, such as exception reporting, predictive forecasting, and opportunity identification based on data mining or pattern analysis. For event resolution, it delivers relevant embedded analytics, including forecasting and risk analysis, which help users make the right decisions when they receive alerts.
- Portal functionality provides alerting and resolution dashboards that integrate seamlessly with work centers, which act as central points of access to collect and coordinate user interactions, tasks, and alerts. The portal also provides a personalized, secure interface that unifies enterprise applications, information, and processes from SAP and third-party sources into a coherent, role-based portal experience.

These functions help you realize some important benefits:

- **An event infrastructure enables and integrates existing systems.**

With this functionality, you can collect, filter, and publish events leveraging your existing systems.

- **Monitoring optimizes process efficiency.**

To review the performance of your business processes and identify areas that need improvement, you can monitor your end-to-end core business processes at significant milestones and benchmark them against critical KPIs.

- **Business event resolution helps you make informed decisions.**

Monitoring business activity depends on your ability to recognize significant events that occur within the activity and use business rules to respond appropriately to these events.

Depending on analyses of previous experiences, such rules may be predefined or more sophisticated. The real return on your investment from implementing business activity monitoring results from the ability to recognize and respond to events, as well as help users resolve events quickly and resume their standard activities. The ability to resolve business events helps users make timely and informed decisions.

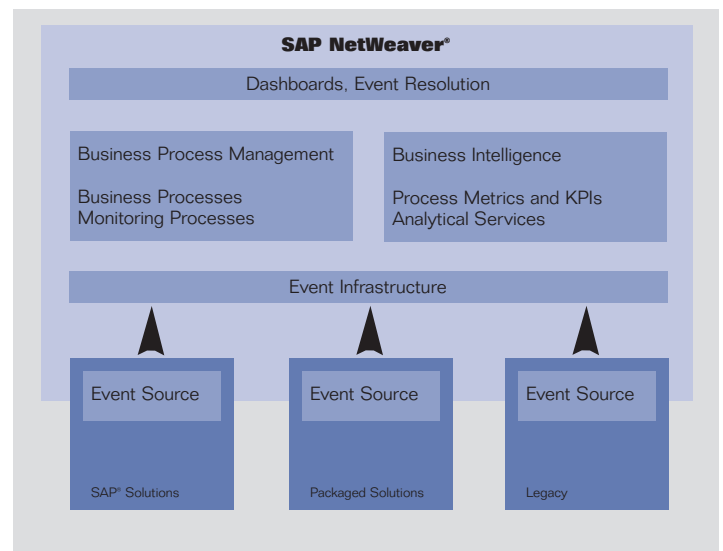


Figure 3: High-Level Business Activity Monitoring Architecture

MONITOR BUSINESS ACTIVITY FOR A COMPETITIVE EDGE

The bottom line about monitoring your business activity is short and simple: you gain visibility of your business processes and instant alerting of significant events; this helps your executives and business users prevent problems before they occur. With an integrated business activity monitoring approach, your company is well positioned for business on the competitive edge.

GLOSSARY

B

business activity monitoring: Business activity monitoring refers to the collection, analysis, and delivery of relevant and timely data about business activities within your enterprise and those that involve your customers and business partners.

business intelligence: Business intelligence describes a set of technologies whose purpose is to create intelligent knowledge from the chaos of corporate information.

business process management: Business process management lets you shape and drive business processes in a dynamic IT environment, which lets your customers monitor the efficiency and effectiveness of these processes. Although the initial focus of business process management was on the automation of mechanical business processes, the definition now includes support for human-driven processes in which human interaction takes place. For example, you might assign individual steps in a business process that require human knowledge, judgment, or experience to the appropriate members of your organization.

C

corporate performance management: Corporate performance management – also known as business performance management – is an umbrella term to describe all the processes, methodologies, metrics, and systems needed to measure and manage the performance of your organization's business strategy.

E

enterprise services architecture: Enterprise services architecture (ESA) is SAP's blueprint for a service-based, enterprise-scale, business-driven approach to services-oriented architectures that offers increased levels of adaptability, flexibility, and openness required to reduce total cost of ownership. It combines SAP's experience in enterprise applications with the flexibility of Web services and other open standards. The SAP NetWeaver® platform is the technical foundation for enterprise services architecture.

K

key performance indicators: Key performance indicators (KPIs) – also known as key success indicators – are financial or nonfinancial metrics your organization uses to reflect its critical success factors and measure its progress toward organizational goals. Within the context of business intelligence, you can use KPIs to assess the present state of business and prescribe the course of action. KPIs differ depending on the nature of your organization.

M

metadata: What exactly is metadata and how is it different from ordinary data? To qualify as true metadata, it must be a type of data that describes some other data. For example, if P is data and $P \Rightarrow Q$ represents the descriptive relationship such that P describes Q, then P is metadata about Q. If there is no relationship to Q, then P is no longer metadata (for example, P is merely data) because metadata is always relative to the object of description. Or stated differently, P only becomes metadata once its descriptive relationship to Q is established.

S

services-oriented architecture: A services-oriented architecture is a collection of services that communicate with each other. The communication can involve simple data passing or two or more services coordinating a particular activity. A service is a function that is well-defined, self-contained, and not dependent on the context or state of other services. A connecting service must link services with each other; Web services based on XML authoring tools are the most likely connectivity technology for robust connections.

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