



WebSphere. software

Establishing a business performance management ecosystem.

IBM Software Group

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Executive summary

Today’s business environment demands agility. Businesses must respond on demand to changing customer needs with flexible systems and processes. Static processes that cannot adapt to changing needs are a liability. Enterprises are scrutinizing the effectiveness of their business and IT operations to identify opportunities for greater efficiencies. This is why business performance management has emerged as a critical discipline to enable agile businesses in an on demand era.

Solutions based on business performance management have the potential to deliver more timely information, promote proactive recommendations and provide a dynamic interface to enable the underlying systems to respond. Business performance management allows a business to closely monitor and manage business and IT activities across and beyond the enterprise as they occur, to recognize areas for improvement, and to quickly implement actions that optimize and bridge business and IT performance.

Business performance management solutions, enabled by IBM software and by a network of IBM Business Partners, directly promote an on demand strategy by emphasizing the ability to monitor and manage both business processes and IT events. Business performance management is a real-time, model-based discipline to, proactively and reactively, optimize and adapt business operations and IT infrastructures based on dynamic performance targets. By coordinating the business and IT events within an integrated framework, decision makers can quickly and efficiently align IT and human resources based on the current business climate and overall market conditions. Business executives can leverage the results of core business process execution to speed business transformation, and IT executives can leverage business views of the IT infrastructure to recommend IT-specific actions that can drive competitive advantage.

The purpose of this white paper is to outline the benefits of implementing business performance management solutions and how IBM and its Business Partners can jointly deliver solutions to customers to provide tangible business benefits.

Business performance management

The operating environment for e-business on demand includes three key elements:

- *An application environment to integrate people, processes and information that constitute business operations*
- *An infrastructure that virtualizes and consumes resources as needed*
- *Business performance management to monitor and manage business operations and infrastructure in real time*

Business performance management is a logical evolution of related business technologies and capabilities, notably business process modeling, business process integration, business intelligence and business services management. Business process integration choreographs the interactions among people, processes and information to execute business operations. The resulting integrated and mediated environment affords an end-to-end visibility of business operations that would otherwise not be possible. Business intelligence technologies, for example, can be used to extract, transform and load (ETL) business transaction data into data warehouses that are then used for business reporting and planning. Business services management can help monitor the performance and health of the IT infrastructure in real time to ensure optimal business performance.

Today's technologies only partially address the challenges facing enterprises. Moreover, they are not integrated. Business performance management solutions, based on an integrated framework, allow an organization to understand the status of business processes across business and IT, place that understanding in context against goals and trends and take timely action to improve execution. IBM, working together with its Business Partners, can deliver to customers extensive business performance management solutions that provide capabilities, such as:

- *Integrated modeling of processes, policies, goals and key performance indicators (KPIs) to enable real-time response to business situations and the continuous improvement of business and IT operations performance*
- *Externalized business rules to improve responsiveness, deploy complex business strategies, and enhance the agility of business operations*
- *Event-driven management of business and IT operations across the extended enterprise*
- *User-customizable real-time analytics and reporting of on demand business and IT performance information to deliver accountability, predictability and visibility*
- *Unified data (event and business metrics) integration and business intelligence to assess KPIs relative to goals and prioritize actions to have the highest positive impact on business performance*
- *Advanced business simulation and performance optimization based on real-time monitoring of business activities to respond to regulatory changes, competitive developments, reduce enterprise spending and improve operational excellence*
- *Proactive monitoring and response to business situations based on advanced planning and forecasting to improve speed and effectiveness of business operations*
- *Industry-specific business performance management solution offerings (e.g., financial services, healthcare, retail) that includes methodologies for evaluating and improving industry processes and services delivery, industry-specific business performance standards and solution dashboards*
- *Consolidated and dynamic resource management to support strategic goals and adaptive actions to improve business performance*

The business performance management methodology

The business performance management methodology is based on a continuous performance improvement cycle that consists of six core activities: *modeling* the business needs; *deploying* the models with the appropriate instrumentation; *running* the automated models; *monitoring* the events emanating from the business operations and supporting IT infrastructure; *analyzing* the events and causality; and *adapting*, for example, redeploying resources, altering business rules or revising business processes (see Figure 1). This model-based approach provides several advantages: practical reuse of the business performance management assets, flexibility to adapt to dynamic changes and efficiency in capturing business intent to ensure solution fidelity (how well the solution implementation reflects the needs of the business).

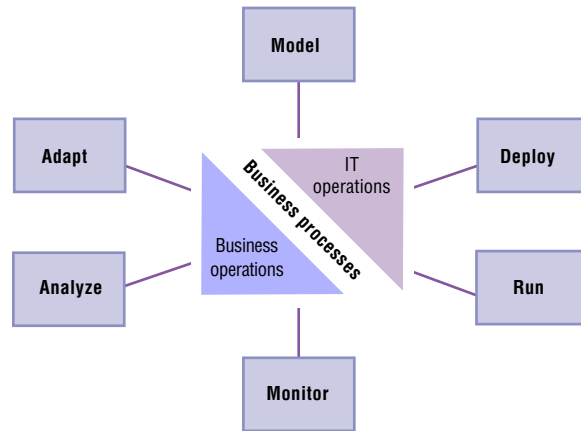


Figure 1. Business performance management optimization and adaptation cycle.

Model

Business modeling is a key capability that helps capture what matters to businesses, such as business policies, key performance indicators, business events and situations, and the actions to respond to events and optimize performance. The models serve as the basis for the instrumentation of the business automation to monitor and optimize business operations and the supporting IT infrastructure. Monitoring provides visibility of performance problems on a real-time basis and the opportunity for timely actions to optimize business operations and IT infrastructure. The optimization involves leveraging the flexibility in the model to accommodate dynamic business targets.

IT models help capture the managed IT resources and services within an organization. The topology of resources – such as hardware systems, the software infrastructure and the properties and relationships across these resources – can be reflected in models.

Capturing models of IT resources can offer significant benefits to IT management activities, from service level agreement (SLA) enforcement and provisioning to transaction performance monitoring and problem determination. Models can help with causal analysis by correlating events back to the resources that directly or indirectly caused them to occur.

To align IT objectives and performance with business needs, IT models should be related to business operations models. Modeled relationships between the elements in a business operations model (processes, organizations and services) and the IT resources on which the business depends (systems and software) can be used to provide shared context and can help ensure the health and availability of IT infrastructures for optimal business performance.

Deploy

The deploy activity relates to the transformation, packaging, distribution and installation of the models created during the modeling activity. The transformation involves applying the model-driven architecture (MDA) approach to transform platform-independent models to technology-specific implementations. The packaging and distribution is driven by the logical topology for the running of the models.

The deploying activity also maps the logical topology to a physical topology of resources that support business operations. The deploying activity must be capable of handling virtualized resources (for example, virtual teams for human resources and workload management for infrastructure resources). The business performance management adaptation and optimization cycle (see Figure 1) requires deployment capabilities, such as the deployment of new components to a running solution (hot deploy) or changing existing deployed components (dynamic redeploy).

Run

The run activity supports most of the other business performance management optimization and adaptation cycle activities. A business performance management run-time enables model-driven operations by linking the execution environment with the models that have been deployed, and by instrumenting the run-time platform to:

- *Monitor business metrics, KPIs and critical business situations in real time.*
- *Provide a feedback loop from monitoring and analysis back to model improvement and redeployment.*
- *Inject executable business rules to allow for dynamic changes of business behavior.*

Monitor

The monitor activity allows administrators and managers to access performance data in real time by tracking the status of artifacts, resources and business processes. In addition to this real-time state information, the monitoring activity can include the aggregation of historic data. It can invoke actions when particular business patterns occur.

Managers can see how projects are performing and what specific issues need resolution. Executives can easily view business metrics and alerts tailored to their areas of responsibility. Information is displayed through workplaces for business performance management that enable roles-based data reporting and industry-oriented dashboards.

Alerts and business results must be displayed to the right people at the right time in a format based on a user's role. The KPIs, metrics and situations to be monitored are defined in an observation model, which also provides an ability to tailor information availability and access to business-relevant data. Users should be able to quickly and easily:

- *View business results in real time and compare them with a historical perspective.*
- *Receive an alert of an exception condition based on real-time analysis of KPIs.*
- *Access related information to qualify business operations alerts.*
- *Define automated responses to an exception condition.*
- *Understand where changes in a business process can bring business advantage.*

Analyze

The analyze activity utilizes the real-time information captured by the monitoring and historical data to evaluate the performance of the organization as measured through the predefined KPIs and customized reports. The performance measurements and KPIs defined as part of the modeling activity enable the creation of both predefined and ad hoc reports. Analysis of real-time event data and other business data, including historical data on business operations, is necessary for computing key performance indicators and diagnosing business performance problems. It is also critical in evaluating the various decision alternatives and planning the appropriate corrective action for any particular business performance management situation that is detected.

The analyzing activity supports business services management by predicting infrastructure problems before they occur. By analyzing historical information about the health and performance of the infrastructure, analysis can help predict potential violations of SLAs or internal resource performance thresholds before these actually materialize. The analyzing activity also features analysis in support of strategic change as it pertains to business, operations, organization and technology necessary to achieve business performance goals. Such analysis can involve evaluation of choices and their value consequences. Business transformation and consulting service methodologies and tools will typically apply to such analysis.

Adapt

The adapt activity can be either tactical or strategic in nature. The tactical approach usually involves a line-of-business user that reacts to a real-time dashboard. Exception conditions are flagged based on metrics defined in the observation models. If an alert is triggered by a business condition, the quick responses can be employed to handle the situation. This step can be automated. Examples of actions performed in response to alerts include reassigning work items or changing their priority, modifying process structure, altering resource allocations, changing rules or modifying trigger conditions for business situations.

The strategic nature of adapting involves business transformation. Based on information from the analyzing activity, managers can implement and prioritize major business transformations, such as adding new lines of business, redeployment of assets and resources, and major acquisitions of technologies or business capabilities.

Business performance management enabling activities

Enabling activities provide added value enhancements to the core activities. These activities, singularly or in combination, provide a rich set of functions that deliver additional benefit to a customer deploying a business performance solution. Illustrated in Figure 2 is an example set of such activities.

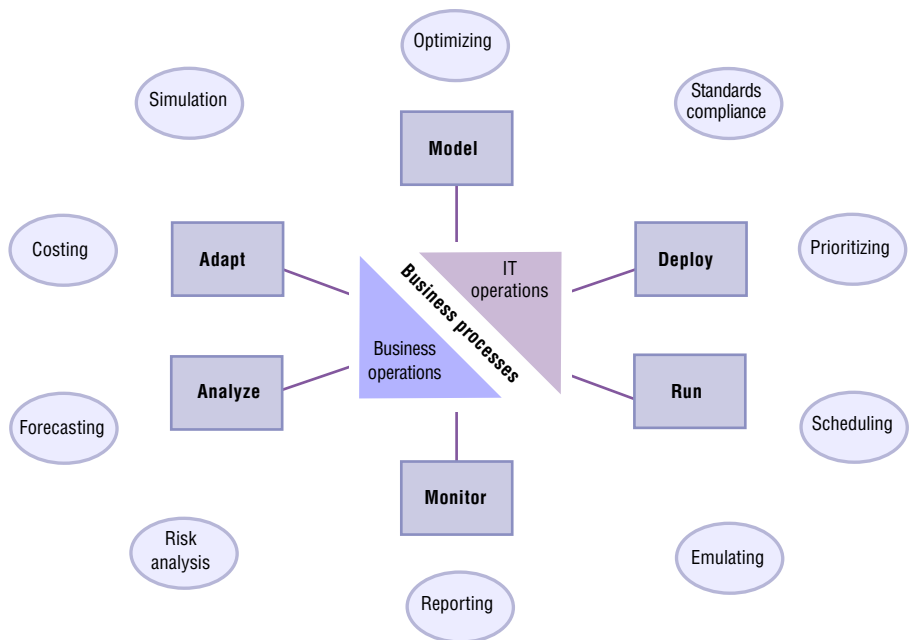


Figure 2. The business performance management cycle with enabling activities.

The business performance management framework

The business performance management framework enables the assembly of components encompassing Business Partner assets and IBM foundational technologies. The framework includes a wide range of capabilities for modeling, integrating, connecting, monitoring, and managing current and new business operations within an enterprise and across a value chain of trading partners and customers. The logical architecture of the framework is illustrated in Figure 3. This logical architecture identifies the functional components necessary for real-time monitoring, analysis and optimization of business operations and the supporting IT infrastructure. The logical architecture does not represent any specific product or offering. The components can be implemented by Business Partners, IBM or both.

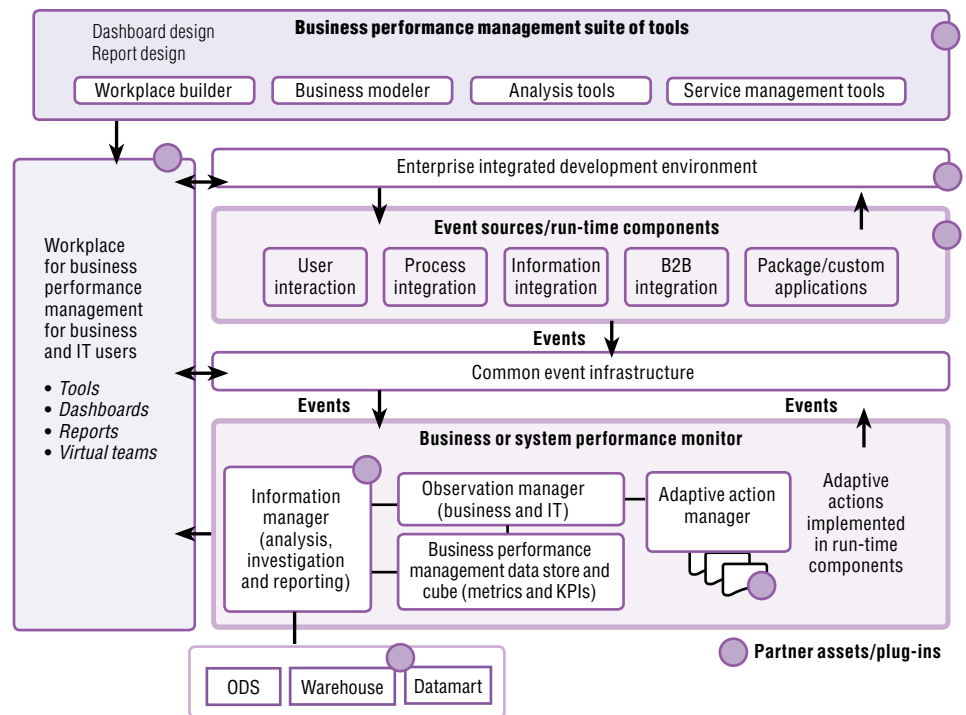


Figure 3. An overview of the business performance management framework.

Annotations in Figure 3 illustrate the functional components of the business performance management framework. These functional components, sourced from Business Partners and IBM, define the business performance management domains that serve as entry points for Partners to plug-in and extend the business performance management framework. These domains include business rules for dynamic process control and adaptive performance management, information management for real-time analytics and reporting, common event infrastructure for event-driven management of business and IT, workplace for business performance management visualization and collaboration, and business services management for consolidated and dynamic resource management to align IT with business objectives. The business performance management framework provides a unifying architecture across these domains for IBM and Business Partners to efficiently assemble end-to-end solutions for specific industries and markets. The foundational capabilities anchoring the framework is IBM's extensible on demand portfolio of technologies. Details on the reference architectures for the individual domains are described in a collection of business performance management white papers. Visit ibm.com/software/bpm for information on the availability of the white papers describing the business performance management domain.

Business performance management enablement

IBM Business Partners can integrate their offerings into the business performance management framework through enablement support. The business performance management enablement support includes four categories:

- *Business performance management domains that describe functional subsets or components of the business performance management framework and serve to identify the entry points for Business Partners to integrate with the business performance management framework.*
- *Business performance management reference architectures to efficiently assemble the components in the business performance management domains.*

- *Business performance management Software Development Toolkit (SDK) to construct solutions using the business performance management capabilities and deploy those solutions in an IBM on demand operating environment.*
- *A Business Partner Management Community to facilitate collaboration between IBM and Business Partners around the world to deliver business performance management solutions to customers.*

Business Performance Management Community

IBM Business Partners play a central role in maximizing the value that customers will realize through the enablement of business performance management. Whereas IBM provides the framework for business performance management solutions, there are many opportunities for Business Partners to extend the framework to meet the unique needs of their customers.

Through the Business Performance Management Community, Partners can collaborate to develop a feature-rich, standards-based business performance management platform leveraging best-of-breed technology and industry best practices to address customer engagement opportunities. Business Partners participating in the community will have access to a variety of tools and support that will increase the overall value of business performance management solutions. IBM is committed to establishing a large network of Business Partners working with IBM to provide the most comprehensive business performance management capabilities available in the market today. To that end, IBM is rolling out the on demand business performance management initiative to provide Business Partners with the necessary resources to develop complementary solutions. IBM will provide educational and technical support resources to enable Business Partners to build business performance management offerings that easily connect to IBM's framework.

Conclusion

IBM's business performance management initiative brings together the capabilities of IBM and its Business Partners through a common point of reference, the business performance management framework and the enablement support delivered through the Business Partner Management Community.

Today, industry analysts are advising companies to optimize the key activities and business processes that drive their revenues and profits. Managers must determine what metrics will provide the necessary information to optimize this set of critical business activities. Business performance management solutions can provide the foundation for deploying an agile and flexible environment to enable real-time responsiveness in an on demand era.

For more information

By joining the Business Partner Management Community for business performance management program, Partners will have the opportunity to shape this emerging market jointly with IBM. Your company can gain global visibility by becoming listed as a business performance management solution provider in IBM's product catalog. This visibility can be increased through participation in marketing activities with IBM to highlight joint customers in on demand reference accounts.

You can visit the IBM PartnerWorld® for Developers Web site and indicate your interest in business performance management at ibm.com/partnerworld.

To learn more about business performance management, visit ibm.com/software/bpm.



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Somers, NY 10589
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03-04
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