

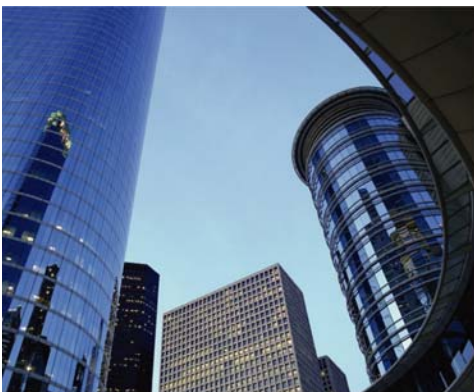


Get There Faster.™

# webMethods Fabric

Realizing the Promise of  
Business Process Productivity

November 2004



CONTROL. EFFICIENCY. AGILITY.

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## EXECUTIVE SUMMARY

This white paper describes how webMethods Fabric helps companies increase Business Process Productivity.

The goal of Business Process Productivity is to enable enterprises to become both highly agile and highly efficient, allowing them to more easily leverage their existing information technology (IT) assets to address market opportunities and pressures, and to create competitive differentiation through their business processes.

To differentiate themselves from competitors, many forward-thinking businesses are shifting their focus from “what” they deliver to “how” they deliver it. This change is the driver for increasing Business Process Productivity. However, this shift requires that IT keep pace with the needs of the business more nimbly, and that the entire enterprise deliver more, with the resources at its disposal. The principle behind Business Process Productivity is to overcome this formidable challenge by dramatically simplifying and accelerating how companies are able to integrate their business processes (and the systems that underpin them), modify existing processes and create new ones as they enhance how they operate, and get the insight needed to respond adeptly to market changes.

webMethods Fabric is the only product suite on the market to incorporate all the functionality required to deliver on the promise of Business Process Productivity.

Built on a platform of standards and a Service-Oriented Architecture (SOA), webMethods Fabric provides a unified solution that allows companies to:

- Increase efficiency, by integrating business processes and applications, and by connecting with trading partners, while, at the same time and with no additional effort, creating an inventory of reusable assets (business services) from their existing systems to accelerate subsequent initiatives.
- Increase agility, by enabling the rapid assembly of new business processes or modifications to existing processes to support the business as it changes; this ability includes the creation of user-centric composite applications that allow end-users to participate productively in the changed business processes.
- Increase control over their operations, by providing real-time information about key business performance indicators along with the intelligence required to optimize business processes and react quickly in response to changes in business activity levels.

To deliver these capabilities, webMethods Fabric combines a unique set of features, along with the innovation of Smart Services™.

By using webMethods Fabric to increase Business Process Productivity, companies gain the ability to innovate without IT restriction, improved ROI on existing IT assets, the ability to meet market demands more rapidly, and greater levels of agility, efficiency, and control for the enterprise.

## BUSINESS PROCESS PRODUCTIVITY

In today's business environment, companies are continually striving to streamline their operations, increase their ability to respond to market conditions, and find new opportunities to differentiate themselves from competitors.

webMethods defines **Business Process Productivity** as the drive to make the business more effective and agile by focusing on "how" to deliver goods and services, rather than "what" to deliver. Business Process Productivity is about maximizing the return that a company realizes from its activities and assets, increasing competitiveness by differentiating business processes, and enabling IT to keep pace with the requirements of the business.

Business Process Productivity is the next level in the evolution of integration. Although integration is still an important prerequisite, the value proposition of Business Process Productivity extends considerably beyond, focusing on business needs and the ability to effectively leverage all in-place IT assets in pursuit of business initiatives.

There are three dimensions to Business Process Productivity:

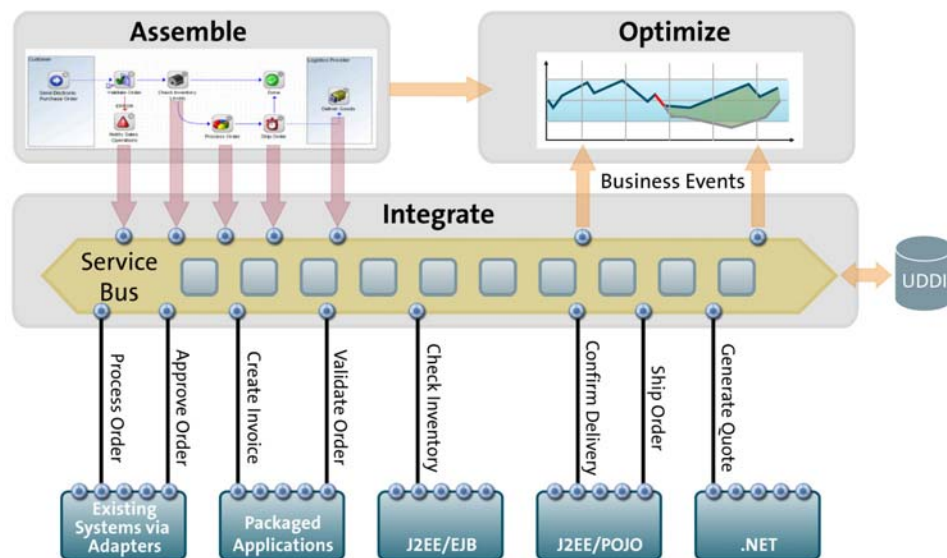
- First, to manage the full scope of the business and to increase efficiencies, companies need the ability to **integrate** previously autonomous business processes. Furthermore, in the context of Business Process Productivity, integration includes the ability to extend existing IT assets, turning them and the processes they underpin into reusable building blocks that can be repurposed to meet new requirements. Not only does this enable companies to leverage the investments they have already made, but it promotes reuse with all its associated benefits of reduced costs and improved quality.
- Second, to become more agile, organizations need the ability to rapidly change and **assemble** new business processes to support new requirements. When applications and processes can be composed from existing building blocks, operational changes can be delivered faster, cheaper and with a higher degree of quality, while at the same time improving a company's return on assets (ROA).
- Third, companies need the ability to monitor every aspect of their key business processes and gain insight into how they can **optimize** how they do business. By tracking metrics that reflect the operational and business performance of a process, and comparing them against previously defined key performance indicators, companies can create a continuous feedback loop that facilitates iterative process improvement.

Business Process Productivity introduces a new paradigm for accelerating IT's ability to serve the needs of the business. With the right solution, companies can gain maximum leverage from their existing resources, while implementing solutions that achieve the efficiency, scalability and control of enterprise package applications—but with the agility associated with end-user tools. With the right solution, companies can get greater value out of their existing investments, freeing them to run the business more effectively, and change how they operate to become more competitive.

## WEBMETHODS FABRIC

webMethods Fabric is a business integration product suite that fulfills all the needs of Business Process Productivity in a single, convergent solution. It builds on webMethods' pioneering origins in service-oriented architecture (SOA) and the company's expertise in integration tools and technologies.

webMethods Fabric addresses the concerns of CIOs who are being asked to deliver more capabilities to the business using existing IT assets, deliver them faster and at lower cost, and continue to offer a high level of service quality. Fabric's integration capabilities make it easy to expose existing IT assets for reuse within an SOA, reducing effort and risk when making changes to support new business needs. Fabric's adherence to standards such as SOA and Web services allows a high level of asset reuse, lowering total cost of ownership (TCO). Fabric's process assembly capabilities provide a highly efficient, low-risk approach to delivering new functionality quickly and easily, while reducing risk through the reuse of existing services. Furthermore, Fabric's business process optimization features provide visibility and control to ensure that service levels can be maintained while offering the continuous improvement and intelligence to optimize business performance. The result is an efficient, responsive IT infrastructure that can support a high degree of business agility and deliver real business value.



**Figure 1. webMethods Fabric helps deliver Business Process Productivity**

webMethods Fabric is based on a Service-Oriented Architecture (SOA) foundation. The significance of this is apparent when you consider how the technical merits of SOA—modularity, encapsulation of functionality, abstraction of a service interface from the implementation, and so on—map directly to the business benefits promised by Business Process Productivity. The SOA principle of encapsulating functionality into discrete services, for example, directly supports the notion of assembling business processes out of reusable process steps. Reusability is another important common theme, with its

benefits of improving quality, reducing implementation effort, and increasing return on in-place assets.

An innovative feature of Fabric is the intelligence that it adds to the business services that are connected into the platform. This ability to turn business services into Smart Services™ and processes into Smart Processes™ is a unique differentiator, which is described in detail later in this white paper.

**Key Solution Capabilities**

In addition to its native SOA foundation and support for Smart Services and Smart Processes, Fabric’s other key capabilities are summarized in the following table:

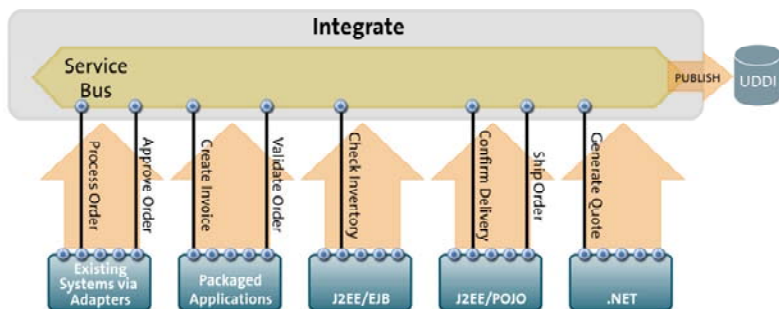
<p>Integrate</p>	<ul style="list-style-type: none"> <li>▪ The ability to connect to a variety of legacy systems and package applications, running on a variety of different computing platforms.</li> <li>▪ The ability to make existing application functions available as reusable components (business services). These services are accessible via standard Web services protocols to promote interoperability.</li> <li>▪ Features to support integration of different business services, such as the ability to transform data from one representation to another, the ability to secure access to services, and so on.</li> <li>▪ Capabilities to manage the inventory of business services, such as a directory of available business services.</li> <li>▪ Capabilities to monitor and manage the operational health and performance of the system.</li> <li>▪ An architecture that fully supports the event-driven nature of business processes within an SOA framework.</li> </ul>
<p>Assemble</p>	<ul style="list-style-type: none"> <li>▪ The ability to easily and quickly link different business services together into new composite business processes and applications.</li> <li>▪ The ability to automate and manage both manual workflows and system-to-system interactions.</li> <li>▪ Capabilities to effectively incorporate end-users into new composite business processes through the delivery of personalized application functionality.</li> </ul>
<p>Optimize</p>	<ul style="list-style-type: none"> <li>▪ The ability to monitor business process metrics and to link them to key business performance indicators.</li> <li>▪ Capabilities to compare historical business activity trends, and to compare them in real-time to current activity levels.</li> <li>▪ Capabilities to create a real-time feedback loop to alert end-users proactively to variations in activity that might affect business process service levels.</li> </ul>

## Integration

At the foundation of webMethods Fabric's integration capability is the webMethods Enterprise Services Platform (ESP), which includes an advanced set of software capabilities that enable the implementation of an industrial-strength SOA. Core to this infrastructure is proven and mature business integration functionality—inherited from Fabric's predecessor, the webMethods Integration Platform—which allows companies not only to integrate existing applications and establish electronic communications with trading partners, but also to incorporate these resources seamlessly into the SOA.

Fabric combines the integration of in-place IT assets with Web services enablement—the ability to make business services available through standard Web services interfaces—to create truly ubiquitous connectivity. webMethods Fabric can expose any IT resource—even those constructed prior to the establishment of the Web services standards—as Web services, making them first-class citizens of the SOA environment inherent to webMethods Fabric.

The SOA enabled by Fabric is enterprise-class, providing the scalability and robustness to support the most demanding requirements of a mission-critical environment. Fabric extends SOA beyond simple Web services standards by incorporating features that enable the widespread deployment of Web services in an enterprise setting. These



include advanced registry services (so that services can discover each other), security, transactionality, audit, monitoring capabilities, and so on. The platform is designed to meet data-center operational requirements, including the performance and scalability to handle enterprise-level business transaction volumes, and the reliability to ensure 24x7 availability.

### *Convergence of SOA and EDA*

Also integral to webMethods Fabric are high-speed messaging capabilities that support an underlying event-driven architecture (EDA) and provide a secure and flexible basis for transporting business transactions throughout the enterprise. Just as SOA maps to the notion of business services, EDA maps to the event-driven nature of business; that is, the occurrence of a business event—such as the receipt of an order—is usually the initiator for a business process. webMethods Fabric uniquely combines EDA and SOA into one framework, so that business events and business services can be transparently coupled together to properly represent the dynamic and interactive nature of real business processes.

webMethods Fabric's integration architecture and capabilities allows businesses to:

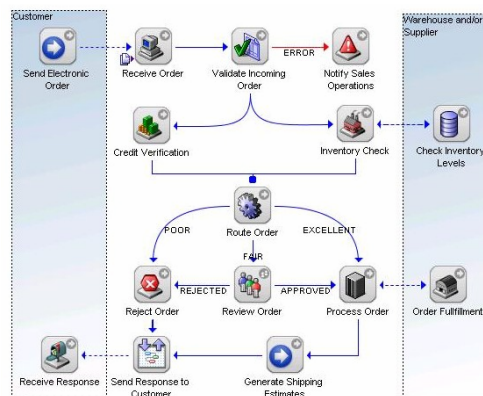
- Address traditional enterprise application integration (EAI) and business-to-business (B2B) integration requirements using a single, proven, platform.
- Expose reusable business-level services whose functionality is provided by existing applications. This ability to repurpose IT assets—and the philosophy of building solutions from existing parts versus developing them from scratch—contributes to dramatically faster implementation times.
- Make these assets available within a standards-based framework, increasing interoperability across various IT resources.

The webMethods Enterprise Services Platform is the first integration solution to combine traditional integration, SOA, and event-driven processing. This serves to separate Fabric from other products on the market. Because of this completeness of vision, the Enterprise Services Platform is able to properly address the complete integration needs of the enterprise, while providing a strong foundation for the additional functionality offered by Fabric.

## Assembly

As mentioned previously, a key dimension of Fabric's integration capabilities is to provide an inventory of reusable business services that can be recombined quickly and easily to create completely new business processes or even complete applications.

The notion of assembling solutions—versus building them from scratch—drives two critical benefits to the business:



- A renewed sense of agility and adaptability for the company, making it more nimble to react to the external forces of the market and to competitive demands. Composite processes and applications require significantly less time to construct than coding the same process. This means that IT can quickly support new initiatives and reduce time to market, enabling the enterprise to more quickly leverage its new product or service differentiation.
- The ability to reuse existing IT components to construct the new processes greatly improves ROI on existing IT assets and lowers the TCO of the new solution. The maintenance costs of composite processes and applications are also lower, by virtue of being based on already-tested components.

webMethods Fabric's assembly capabilities provide two broad levels of functionality—the core activity of defining, designing, and managing business processes, and the client-side capability of delivering personalized end-user applications.

The kinds of solutions that can be assembled with Fabric:

- Composite business processes that include system-to-system, human-to-human, and human-to-system interactions. This includes processes with interactions between organizations, using the relevant electronic standards.
- Composite applications that incorporate functionality from various underlying systems to provide an end-user with a set of capabilities that are specifically tailored to his or her job function. A composite application can be considered a user's Graphical User Interface into a composite process.
- As part of a composite application, workflow user-interfaces for the manual steps in a process that are performed by people—for example, approving a purchase, authorizing a loan, etc.

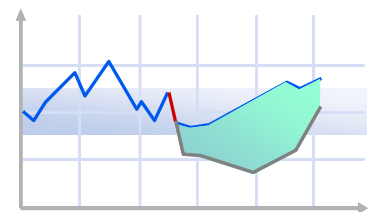
webMethods Fabric enables both business and IT specialists to contribute their respective abilities to maximize their effectiveness in the assembly cycle. To facilitate this, webMethods Fabric provides a sophisticated business process design environment that provides a layered view, starting from a simple process view that is unencumbered by system-level details, right through to views where process steps are linked to underlying business services. This frees a business analyst to conceptualize processes, and use the conceptual definition to communicate with other business participants. At this level, process owners are only concerned with modeling the actual process, not the underlying technical details. By allowing this kind of modeling, Fabric ensures that business requirements drive the technical implementations, rather than the reverse. Once process models are defined, developers generate the models and implement any underlying services that do not already exist.

An important element of a composite process that requires human interaction is providing a visual interface to deliver the composite or aggregated view to the user. Fabric not only allows this to be done quickly and easily through a browser-based composite application framework, it also allows the applications to be personalized for the user's role, based on the business context and the user's privileges. With these capabilities, users get exactly the functionality required for their job, rather than having to learn and coordinate between multiple different applications to achieve a given task.

In summary, Fabric takes advantage of the underlying SOA to allow the assembly of composite processes and applications in a fraction of the time that would be needed to develop them in the traditional way.

## Optimization

The processes that a business employs are the lifeblood of the company. A set of efficient and productive processes keeps customers satisfied, material flowing, and management happy. Optimization of these business processes is a key component of increasing Business Process Productivity.



With Fabric, process optimization involves intelligent profiling and analysis of process and workflow performance, and using the resulting information to provide meaningful feedback up the decision chain. This powerful feedback loop increases corporate efficiency by:

- Identifying and removing bottlenecks.
- Allowing a quicker reaction to exceptions, both negative (longer order-processing times) and positive (a sudden jump in sales).
- Reducing exceptions by predicting when and where they may occur based on past experiences.
- Providing, through an understanding of the “big picture,” the confidence for an organization to fundamentally change and improve how it operates.

webMethods Fabric's advanced process optimization ability begins with the pervasive monitoring capabilities woven into its service-based architecture. Smart Services—those business services that are integrated by Fabric and inherit its intelligence as a result—are automatically instrumented for the optimization process. Fabric uses the instrumentation built into these services to collect the necessary metrics to gauge operational performance. By tracking these metrics in real time, performing complex analysis to automatically calculate norms, and continuously correlating the results against past patterns, Fabric is able to identify variations in the key performance indicators—sales volume, order cycle time, customer call response time, etc.—of interest to the business.

Further competitive advantage is provided to the business by Fabric's predictive capabilities. Through a unique feature called fingerprinting—essentially, comparing what it currently observes with a snapshot of the circumstances that previously led to an exception in business process performance—Fabric has the ability to call attention to problems (or opportunities) before they occur. This predictive capability gives the business the opportunity to react more quickly to exceptions and slowdowns that can directly affect customer satisfaction and result in lost revenue.

Based on information gained in the monitoring and optimizing processes, changes can be made to business processes and workflows, closing the continuous improvement loop.

## **Product Differentiators**

webMethods Fabric includes best-in-class application integration, trading partner management, and business process management capabilities that have helped to make webMethods a recognized leader in the integration market.

At a broad level, three aspects truly differentiate webMethods Fabric from other business integration solutions on the market.

### **Advanced Service-Oriented Architecture**

First, Fabric is the only solution on the market that has its origins in Service-Oriented Architecture (SOA), as evidenced by webMethods' proposal in 1997 to the World Wide Web Consortium for a standard for allowing computers to communicate with each other via services and the open standards of the Internet and XML. SOA is at the heart of

many of Fabric's strengths—the ability to easily leverage in-place IT assets, rapid assembly, reusability, and so on. Not only is Fabric based on an SOA, but it incorporates advanced SOA infrastructure and management capabilities that enable companies to realize the full potential of SOA on an enterprise scale.

## Integration of Convergent Capabilities

Second, unlike vendors that offer related but essentially stand-alone products, Fabric combines several complementary and synergistic capabilities into a single integrated product suite with a single business purpose – increasing Business Process Productivity.

Uniquely, webMethods Fabric brings together:

- EAI and B2B under a common architecture and implementation framework. Most vendors treat EAI and B2B as separate problems (with separate solutions), even though enterprise business processes do not stop at the firewall; they span it.
- SOA and EDA. As indicated earlier, SOA provides a robust model for implementing business systems from parts, but the nature of business itself is event-driven (meaning, a business process is typically initiated in response to a business event, such as the receipt of an order, inventory falling below replenishment levels, etc). Fabric neatly brings Event-Driven Architecture (EDA) to SOA by allowing business services to be triggered by business events, an event monitoring and collection infrastructure, and event filtering and processing capabilities. Again, the benefit to the customer is a unified solution that addresses the full range of Business Process Productivity needs.
- BPM and BAM. On their own, Business Process Management (BPM) and Business Activity Monitoring (BAM) offer tremendous value. However, when combined, as in webMethods Fabric, they enable true business process optimization. Business processes become smart by virtue of being pre-instrumented to report on key business performance indicators. The insight gained from business activity monitoring directs the organization's attention to where improvements can be made (which, in turn leads, to modifying business processes). The result is a feedback loop that drives continuous process improvement.
- ESB and traditional integration. Enterprise Service Bus (ESB) is the name given to a new class of standards-based middleware. webMethods was the first major integration vendor to offer a Web services-based ESB on the market, and is now the first—and thus far only—vendor to unify ESB with traditional integration capabilities to form a standards-based, service-oriented integration platform. The benefit to customers is greater interoperability with other systems and a minimized dependence on proprietary technologies.

## Smart Services™, Smart Processes™

The third significant differentiator is that webMethods Fabric is the only business integration software with Smart Services and Smart Processes.

A business service (a step, like “verify customer credit” in a business process) becomes a Smart Service by virtue of being deployed via webMethods Fabric. A Smart Service is automatically able to convey information about a business function (or itself) back to webMethods Fabric in the form of business metrics, which are used by the optimization features in webMethods Fabric to provide business insight.

Smart Services have the following qualities:

- Self-instrumented. A prerequisite for many of the capabilities below, Smart Services have built-in hooks that enable efficient monitoring and analysis of characteristics such as availability, performance, quality of service, etc.
- Self-aware. Smart Services are aware of the business context under which they operate, and able to convey contextual data as they relate to key business performance indicators (for example, order amount as it relates to revenues).
- Self-diagnostic. Smart Services carry with them the knowledge of what constitutes acceptable service levels and are able to warn of any threats to service commitments.
- Predictive: Smart Services use statistical analysis to alert when they (or their inputs) are behaving out of normal or developing negative trends. For recurring issues, Smart Services learn and monitor the leading indicators and use this knowledge to predict future incidents.

In turn, Smart Processes result from Smart Services that are linked together into business processes. Smart Processes share all of the unique capabilities listed above, plus additional features such as:

- Business policy awareness. Smart Processes are able to monitor themselves not only for performance but also for business policy exceptions; e.g., when a payment request exceeds the authorization amount.
- Adaptability. Building on their self-diagnostic capabilities, Smart Processes can adjust to process peaks or changes in business activity levels, for automatic closed-loop process productivity.
- Continuous improvement. For longer-term process improvements, Smart Processes constantly analyze themselves for greatest payback areas using six-sigma Pareto analysis.
- Inter- and intra-process correlation. Smart Processes are not only self-aware, but they also understand which other Smart Processes they depend upon, and which depend upon them. This intelligence enables earlier warnings, faster resolutions, and more accurate impact assessment when there are exceptions.

Collectively, Smart Services and Smart Processes provide organizations with an unprecedented level of business process intelligence, insight, and agility, increasing the speed and effectiveness with which they are able to respond to business dynamics.

## **CONCLUSION**

As businesses seek ways to differentiate themselves from their competition, the IT infrastructure may present one of the most effective vehicles to realizing a competitive advantage. When an enterprise is able to align its IT delivery capabilities with its business needs, it creates a true competitive advantage, providing businesses with enhanced agility, efficiency and control.

webMethods Fabric is the only solution on the market that addresses all of the dimensions of Business Process Productivity in a single offering. It combines proven business process integration, assembly, and optimization capabilities with an enterprise-class, service-oriented architecture.

By using Fabric to increase Business Process Productivity, organizations are better able to differentiate themselves by “how” they conduct business, and not merely by “what” products or services they offer. All of this translates into greater customer satisfaction, increased profitability, improved return on new and existing IT investments, and greater control over, and visibility into, the business.

As a market pioneer and a recognized leader in business integration, webMethods has built a strong record of success. With over 1,200 customers worldwide, webMethods provides enterprise-caliber technologies that directly enhance corporate performance and return on investment.

### **For More Information**

For additional information on Business Process Productivity and webMethods Fabric, please visit the webMethods website at <http://www.webmethods.com>, or contact us at one of the phone numbers on the last page of this paper.

## **ABOUT WEBMETHODS, INC.**

webMethods is a leading provider of business integration software to the Global 2000 and large government agencies. Our technology lets our customers integrate, assemble and optimize available IT assets to drive business process productivity. Currently, more than 1,200 customers are meeting customer demands, reducing costs, creating new revenue opportunities and reclaiming ROI. Faster. webMethods is headquartered in Fairfax, Va., with offices throughout the United States, Europe, Asia Pacific and Japan. More information about the company can be found at [www.webMethods.com](http://www.webMethods.com). NASDAQ: WEBM.

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