

Delivering information you can trust
May 2009



Information Management

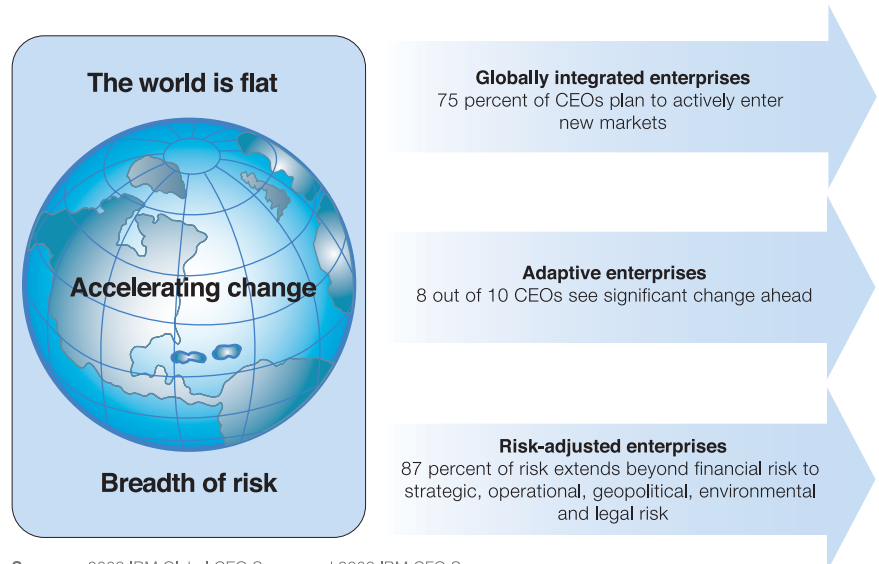
Delivering trusted information with IBM InfoSphere Foundation Tools

InfoSphere.
software

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Introduction

Despite very difficult economic environments, CEOs of leading organizations are continuing to invest resources to make their companies smarter and more competitive. Every organization—regardless of size—is trying to be more adaptive by focusing on using information to understand customers, enter new markets and operate with more flexibility and efficiency (see Figure 1).



Sources: 2008 IBM Global CEO Survey and 2008 IBM CFO Survey

Figure 1: IBM surveys show that leading organizations are adapting their organizations for future growth and risk.

Organizations that can make trusted information available anywhere, anytime, can respond quickly and accurately to customers and react to trends before competitors even know that the trend exists. But nurturing information as a strategic asset is easier said than done. Point solutions, deployed to handle specific tasks, do not account for the need to connect across enterprise

departments, leaving critical information stranded in department silos or stored in systems that are built for speed and performance, but not accessible for analysis. This disconnected information architecture leaves IT organizations unable to monitor and improve information quality or respond rapidly to new information requests from business users and executives. As a result, companies continue to struggle to achieve true information-based innovation.

Rip and replace is not an option

With its high cost in time and money, no organization truly has the option to replace all of its legacy systems with a homogeneous set of applications. Instead, organizations are identifying, accessing and integrating data from existing systems to gain competitive advantage. Information-intensive initiatives like master data management (MDM), enterprise data warehousing and business performance management help bridge the gaps between silos of information and create a unified view of the business.

Deploying this new infrastructure gives IT departments a golden opportunity to optimize their organization's information architecture. Migrating from legacy systems to modern platforms and upgrading and consolidating major enterprise applications presents a chance to streamline and optimize critical enterprise data. However, care must be taken to ensure that the quality of the information loaded into these systems meets expectations and can be managed for governance and compliance reporting purposes.

The first step toward building an integrated information architecture is gaining a clear understanding of the information that exists within business systems. Organizations must assess their current information landscape to determine what information is available and what information is needed to drive greater business value, and then devise a phased plan to bridge the gaps.

This white paper provides an overview of how the IBM® InfoSphere™ Foundation Tools, the broader IBM InfoSphere software portfolio and the IBM Industry Models provide organizations with the open tools and consistent processes to design and build optimized information architectures to deliver trusted information.

Designing an integrated information architecture with IBM InfoSphere Foundation Tools

IBM InfoSphere Foundation Tools help organizations profile, model, define and govern their information. With InfoSphere Foundation Tools, organizations can inventory existing information assets and design their information infrastructure to build trusted information across the enterprise. InfoSphere Foundation Tools enable organizations to:

- *Identify data and content that are vital to the organization*
- *Create a shared glossary of business terms linked to data sources*
- *Identify how, when and where information should be made available*
- *Support data governance practices*
- *Align the use of information with business objectives*

Who uses IBM InfoSphere Foundation Tools?

IBM InfoSphere Foundation Tools are designed for data analysts, business analysts, subject matter experts, architects and governance stewards. These individuals must ensure that the IT information architecture supports all information-centric projects, including MDM, business intelligence (BI) applications, governance initiatives and more.

As key stakeholders, these users typically manage all of the information pertaining to various projects—including business requirements and technical specifications—in multiple, disconnected tools and processes. Managing and consolidating this information is often a manual process that is prone to errors, misinterpretations (especially when business and IT staff are replaced) and redundant efforts.

With InfoSphere Foundation Tools, users can take ownership of critical assets and monitor information quality over time, helping to build greater trust between business and IT and to maximize the flow and use of information to optimize business processes. InfoSphere Foundation Tools help these individuals to collaborate more effectively and build a common, auditable blueprint to ensure success.

InfoSphere Foundation Tools: An overview

InfoSphere Foundation Tools are an open set of tools that help prepare an organization to adopt an information agenda and work to ensure its success. InfoSphere Foundation Tools include:

- *IBM InfoSphere Business Glossary, including Business Glossary Anywhere*
- *IBM InfoSphere Information Analyzer*
- *IBM InfoSphere Data Architect*
- *IBM InfoSphere FastTrack*
- *IBM InfoSphere Metadata Workbench*

These five core components can be deployed together or independently depending on the specific needs of the organization (see Figure 2).

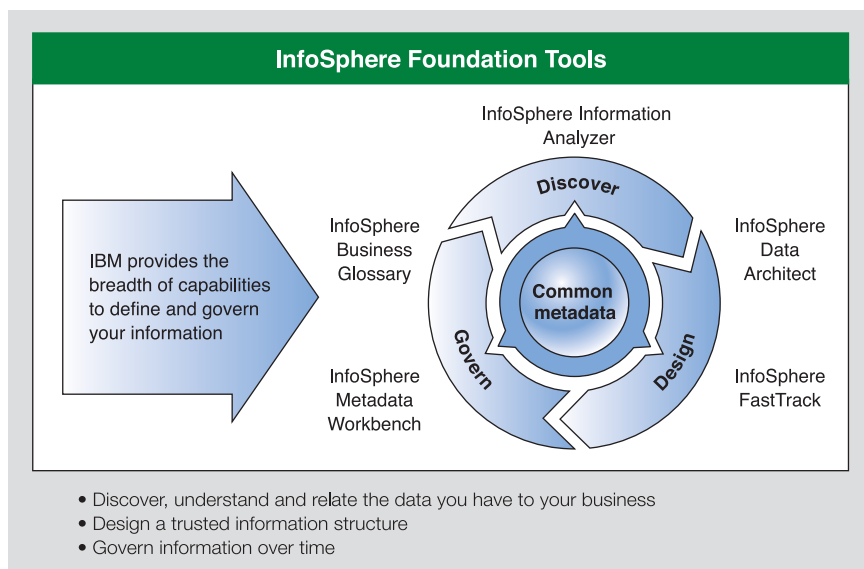


Figure 2: The five components of InfoSphere Foundation Tools help an organization align enterprise information with business goals.

Discover, design and govern trusted information with InfoSphere Foundation Tools

The process of discovering, designing and governing the IT infrastructure to create trusted information comprises five key stages (see Figure 3). InfoSphere Foundation Tools provide critical support each step of the way.

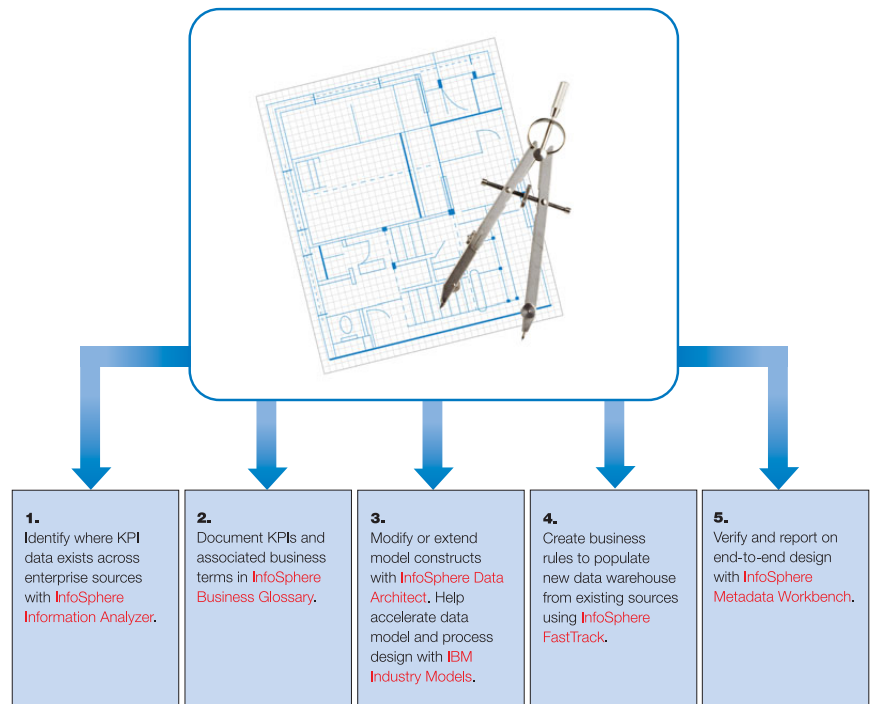


Figure 3: InfoSphere Foundation Tools and IBM Industry Models help accelerate and simplify data integration projects.

1. Assess information assets. The first step is to analyze existing enterprise data sources to understand the structure, content and quality of the information available. Existing documentation may be outdated and must be validated to ensure accuracy, consistency and completeness.

InfoSphere Information Analyzer profiles and analyzes source data from multiple enterprise repositories. It includes a business-driven data rule definition approach with an integrated data rule analysis to evaluate and monitor information assets. As with all InfoSphere Foundation Tools, InfoSphere Information Analyzer is designed to work in a heterogeneous IT environment comprising IBM and non-IBM information sources. It also creates valuable metadata as a part of the data profiling process, identifies new data objects and enables in-depth analysis within and across heterogeneous information sources. The assessment can span the entire enterprise information ecosystem: various databases, files and enterprise applications. Without InfoSphere Information Analyzer, this process can be manual, time-consuming and error-prone.

2. Capture and create a shared vocabulary. The second step is to capture and create a shared, enterprise-wide common vocabulary that accurately reflects your business hierarchies. Deploying a common glossary of terms for enterprise adoption is a fundamental underpinning of data governance initiatives and is vital to ensuring that business and technical users fully understand the meaning of critical enterprise assets. As part of a mature information infrastructure, the glossary and its contents must also be easily accessible.

InfoSphere Business Glossary helps organizations establish a consistent, common, enterprise-wide vocabulary to describe information assets in business terms. It can help improve collaboration between business users, IT

analysts and data architects by managing business terms and hierarchies. The InfoSphere Business Glossary Packs for Industry Verticals help accelerate Business Glossary deployments by providing a rich set of authoritative terms and definitions, specific to six different industries, that are ready to load into Business Glossary.

The Business Glossary includes a desktop client that enables business analysts, architects and end users to access business definitions from within desktop applications, including Microsoft® Office products, BI products, Web browsers and others. Users simply click on a term to trigger a pop-up window containing the definition. InfoSphere Business Glossary supports an open, Representational State Transfer (REST) standards-based and secure interface; applications, mashups, etc. can now transparently embed glossary information into their environment.

3. Design and optimize enterprise models. The third step is to build a data model for your new infrastructure requirements, such as a datamart or an enterprise data warehouse. You can alternatively update and optimize existing structures within your organization. The IBM Industry Models may also be utilized as an add-on to InfoSphere Foundation Tools to help accelerate this process and allow you to take full advantage of industry best practices and IBM's years of experience.

4. Define source-to-target business rules. The fourth step is to create specific business rules based on the information gained by analyzing the enterprise data source systems, new data models and business definitions. These business rules describe how to transform data sources into a consumable format for the target application and required uses.

InfoSphere FastTrack builds upon the InfoSphere Information Analyzer assessment, providing business and data analysts with a method to capture and define business source-to-target specifications based on the results of data profiling. A desktop design tool, InfoSphere FastTrack creates common, familiar mapping documentation to help streamline the required collaboration between business analysts, data modelers and developers and create a solid information infrastructure with the most complete business requirements.

5. Govern and audit over time. The fifth step is to implement repeatable processes to govern information quality over time. This includes using a standard process to define common enterprise terminology, tracking business specification documentation for historical auditing purposes and applying approved naming conventions and data quality auditing rules to key areas. For example, IT departments might extract critical information about products, customers and suppliers from various repositories and applications on a weekly basis and assess the quality of that information against best-practice key performance indicators (KPIs) using InfoSphere Foundation Tools.

InfoSphere Metadata Workbench is critical to understanding the end-to-end information infrastructure built with the InfoSphere Foundation Tools. It provides an intuitive graphical user interface (GUI) for browsing information assets and understanding data lineage, as well as conducting “what-if” analyses to predict the impact of application changes.

Through the Data Lineage Extender, users can capture lineage and relationships that are outside the InfoSphere Information Server domain. Users can now understand the end-to-end information flow and impact analysis in a truly heterogeneous environment. Using InfoSphere Metadata

Workbench, users can learn more about relationships among business terms, data model entities and technical and reporting metadata—a foundation step for building and maintaining a map of your enterprise information infrastructure.

Why IBM InfoSphere Foundation Tools?

InfoSphere Foundation Tools provide a unique combination of capabilities to help organizations define and manage their data. The tools help organizations discover and categorize new information sources, model and map data schemas, create business rules, establish and maintain data stewardship, manage business vocabulary and relationship hierarchies and centralize this information in a shared repository to facilitate active collaboration between business and IT.

InfoSphere Foundation Tools are designed as an open toolkit that works with IBM or non-IBM data sources, BI tools or data warehouse tools—or in conjunction with the tools' own comprehensive set of integration products. As a result, InfoSphere Foundation Tools can be deployed in a heterogeneous IT environment, helping you leverage existing IT investments as you create your new information architecture.

The tools can be deployed as a bundle or as stand-alone products, and IBM has industry-specific accelerators and other best practice assets to help you deploy InfoSphere Foundation Tools within your organization. IBM also provides best-practice assets for each product to help you implement your projects quickly.

Help accelerate the design process with IBM Industry Models

Businesses can accelerate their information design processes by using the IBM Industry Models in tandem with InfoSphere Foundation Tools. The fully customizable IBM Industry Models supply best-practice data and business process models as well as KPIs based on proven industry examples. Developed over 10 years and incorporating IBM’s experience with more than 400 clients, the IBM Industry Models support six major industry verticals (see Figure 4).







IBM Industry Data Models		
 <p>Banking (Banking data warehouse)</p> <ul style="list-style-type: none"> • Profitability • Relationship marketing • Risk management • Asset and liability management • Compliance 	 <p>Financial markets (Financial markets data warehouse)</p> <ul style="list-style-type: none"> • Risk management • Asset and liability management • Compliance 	 <p>Health plan (Health plan data warehouse)</p> <ul style="list-style-type: none"> • Claims • Medical management • Provider and network • Sales, marketing and membership • Financials
 <p>Insurance (Insurance information warehouse)</p> <ul style="list-style-type: none"> • Customer centricity • Claims • Intermediary performance • Compliance • Risk management 	 <p>Retail (Retail data warehouse)</p> <ul style="list-style-type: none"> • Customer centricity • Merchandising management • Store operations and product management • Supply chain management • Compliance 	 <p>Telco (Telecommunications data warehouse)</p> <ul style="list-style-type: none"> • Churn management • Relationship management and segmentation • Sales and marketing • Service quality and product lifecycle • Usage profile

Figure 4: Predefined IBM Industry Models provide industry-specific data and process models to help speed deployment of organizations’ information-centric initiatives.

IBM Industry Models include a glossary of business terms, concepts and a physical data model. They can be used to pre-populate InfoSphere Business Glossary to share common definitions and the location of assets across the enterprise, help better align business and IT users and help accelerate overall project delivery. The templates allow organizations to expedite industry-specific business and technical metadata to help speed up data integration projects such as MDM initiatives or data warehouse development.

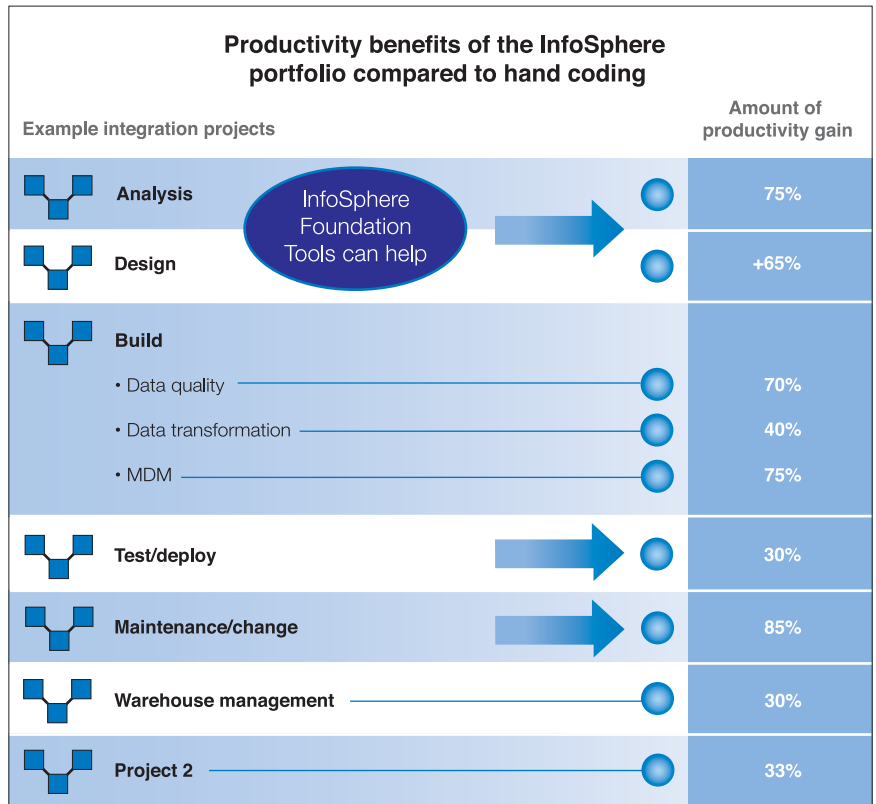
Why IBM Industry Models?

IBM Industry Models provide best-practice data, business process models and enterprise business definitions that form the basis for the desired end-state. The models also define critical business processes, like on-boarding new customers, and include industry-specific KPIs and reports to help track progress toward achieving business goals. Migration and planning tools help facilitate and speed the transition from the current state to the desired future state.

Building on the foundation with the IBM InfoSphere portfolio

A data optimization architecture and strategy created with InfoSphere Foundation Tools is the blueprint for delivering trusted information across your organization. The IBM InfoSphere product line builds on this foundation, enabling your organization to leverage enterprise information for competitive advantage by delivering greater value to customers and partners.

The InfoSphere portfolio provides a complete, integrated and easy-to-deploy platform to help address a wide range of information needs (see Figure 5). It has five major components: InfoSphere Information Server, InfoSphere Change Data Capture (CDC), InfoSphere Master Data Management (MDM) Server, InfoSphere Warehouse and the IBM Industry Models, which were discussed earlier in this paper.



Sources: Gathered from IBM project studies using InfoSphere MDM Server, IBM Industry Models, InfoSphere Information Server and InfoSphere Balanced Warehouse.

Figure 5: The InfoSphere portfolio helps delivers greater value and productivity compared to hand coding.

IBM InfoSphere Information Server

InfoSphere Information Server is a flexible data integration platform designed to deliver trusted information on demand for business initiatives. It integrates information from heterogeneous systems and helps transform data into actionable information. A parallel processing foundation allows InfoSphere Information Server to easily scale to meet the needs of even the most demanding environments, support growing data volumes and shrink processing windows with batch and real-time processing.

The unique, metadata-driven design of InfoSphere Information Server helps to align business goals with IT activities, providing a consistent understanding of business context by capturing business vocabulary and specifications and using them to automate development tasks. It also provides deeper insight into data by tracking its end-to-end lineage. These capabilities help improve overall project productivity by promoting collaboration during development and creating a set of reusable assets to drive ongoing value across multiple information projects.

IBM InfoSphere Change Data Capture

IBM InfoSphere Change Data Capture uses log-based CDC technology to provide scalable, high-performance and heterogeneous real-time data integration without impacting the performance of source systems. It can be used to synchronize data in real time between multiple environments to support real-time reporting, operational BI, application synchronization and MDM, and to deliver data in real-time to Service Oriented Architecture (SOA) environments.

IBM InfoSphere MDM Server

MDM maintains a consistent “master” record of key business entities and ensures that all instances of this data are synchronized across all systems at all times. InfoSphere MDM Server provides an operational data hub for all types of master data. It centralizes and synchronizes this data across heterogeneous systems through a library of more than 800 prepackaged business services. The goal is to provide a single trusted source of information for business processes so that organizations can confidently use enterprise data to help create new revenue opportunities, reduce redundancies and enact other strategies to facilitate growth. InfoSphere MDM Server also leverages the data quality and transformation services from InfoSphere Information Server to provide consistent processing rules across multiple applications.

IBM InfoSphere Warehouse

InfoSphere Warehouse delivers a powerful and scalable foundation for your data warehouse. It includes data mining, text analytics, data archiving and compression, performance and workload management capabilities. Online analytical processing (OLAP) capabilities enable users to build logical datamarts without requiring a separate physical server and provide seamless support for IBM Cognos® BI and other BI and reporting tools. The flexibility of logical datamarts enables InfoSphere Warehouse to dynamically react as information changes, which helps reduce overall IT cost and drive business insight. InfoSphere Warehouse can also call directly upon transformation services from InfoSphere Information Server, providing the utmost in flexibility and performance.

A complete infrastructure for business intelligence

The InfoSphere portfolio also serves as a platform for IBM Cognos to provide advanced BI and performance management solutions. IBM Cognos 8 BI delivers the complete range of BI capabilities on a single SOA. It provides the capabilities and information businesses need to make better decisions. Use reports, analysis, dashboards and scorecards help managers and other line-of-business employees monitor business performance, analyze trends and measure results.

Together, InfoSphere Foundation Tools and the InfoSphere software portfolio help organizations objectively assess their information needs, plan an information management strategy that builds on existing investments in systems and people, and then execute that strategy quickly and efficiently with industry-specific accelerators and an integrated, scalable technology foundation. In a world where information is a strategic asset, IBM is focused on helping organizations use that asset to maximum advantage.



For more information

To learn more about InfoSphere Foundation Tools and the InfoSphere software portfolio, please contact your IBM sales representative or IBM Business Partner, or visit:

- ibm.com/software/data/infosphere/foundation-tools/index.html
- ibm.com/software/data/infosphere

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