IBM Information Management

Manage your data and control risk to develop information
you can trust

IBM

Every business—from financial services to health care, manufacturing to retail, and government to utilities—is swimming in information. According to a 2010 article on ZDnet.com, in 2009, there were 0.8 zettabytes of information. By 2020, we're expected to have 35 zettabytes of information in the digital universe.[1] That's 35 trillion gigabytes!

With so much information, your business strategy relies now more than ever on your ability to manage and leverage it, unlocking the answers to critical questions. Which of your customers is the most likely to upgrade their service? How do raw material costs from your suppliers compare? How much risk did your underwriting division take on last week? No matter where you are or what you do, information is at the heart of business. To improve efficiency, increase productivity, reduce risk and achieve competitive advantage, you need to tap into the information that your business collects every minute of every day and use it to generate new insights.

But unless you can trust that your information is accurate, timely, secure and complete, those insights won't be worth very much—and creating and accessing information you can trust isn't always easy. Data often resides in disconnected silos across various departments, making it difficult to know which records are the most up-to-date and accurate. Meanwhile, manual, disjointed reporting on disconnected data can prevent you from seeing valuable large-scale patterns and trends.

To effectively use the data that your business collects and creates, you need to manage, integrate, analyze and govern it. The information in your systems must cohere and relate to create a single, unified view of every part of your business, from your suppliers and inventory out through your sales channel and customers. You can use that view to make better decisions and manage risk more effectively.

The IBM® Information Management portfolio offers a complete set of solutions designed to help you not only manage your data, but also master it:

- **Data management** solutions help you manage data cost-effectively throughout its life cycle.
- **Information integration** solutions enable you to integrate and transform data to improve productivity, flexibility and performance—helping to ensure that the right people have the information they need to make good business decisions.
- **Data warehousing** solutions support business analytics by delivering access to both structured and unstructured information in real time.
- **Master data management** solutions give you a unified, complete, consistent and standardized view of enterprise data.
- **Information governance** solutions help you ensure compliance while reducing costs and risks.

The IBM Information Management portfolio contains everything you need to build a foundation of trusted information to support a comprehensive business analytics and optimization strategy and to make smarter business decisions.

Data management

Building a foundation of trusted information starts with high-performance data management tools that efficiently and reliably deliver your information to the users and applications that need it, and enable you to manage the complete life cycle of data—from creation through retirement.

IBM data management offerings—including database software and data management tools—are designed to help you reduce the cost and complexity of managing large volumes of critical data, all while helping you minimize risk. With better access to the full range of information housed in the company's systems, business leaders can make more informed decisions.

IBM data management software helps provide the robust, high-performance foundation you need to run—and get the most from—enterprise applications. With IBM software, you can leverage existing hardware and software investments and gain the flexibility necessary to adapt to changing business conditions.

IBM database software offerings include:

- **IBM® DB2®** offers outstanding performance, scalability, reliability and availability across multiple workloads on a range of platforms. Unique capabilities, such as IBM DB2 pureXML® and IBM Optim™ pureQuery, provide the ability to optimize Java™, Microsoft® .NET and XML application performance. Today, migrating to IBM DB2 from other database environments can be accomplished with far fewer application modifications than ever before, enabling you to capitalize on the power of DB2 while preserving your previous software investments.

- **IBM Informix®** provides outstanding performance, reliability and scalability along with industry-leading self management functionality and embeddability. Informix also incorporates sophisticated capabilities for managing time-series and temporal data, allowing you to expand the functionality of your database, streamline storage and retrieval, and manage multiple types of time-series data.
- **IBM IMS**™ is a high-performance transaction and database manager designed to support high-volume transaction processing, data integrity, recoverability, availability and scalability. New capabilities facilitate deployment of existing IMS-based applications over the web without touching a single line of code.
- **IBM solidDB®** offers relational, in-memory database technology that can significantly accelerate database performance compared with conventional, disk-based databases. Applications can achieve tens of thousands of transactions per second with response times measured in microseconds.

IBM tools for data management include:

- **IBM DB2 tools for z/OS® and tools for DB2 for Linux®, UNIX® and Windows®** provide a powerful set of tools to help manage performance, simplify administration, ensure data availability and maintain control over your DB2 data.
- **IBM IMS tools** deliver outstanding reliability and affordability to help maximize the value of IMS environments.
- **IBM Informix tools** are designed to enable efficient application and web development, information integration and database administration.

IBM workload optimized systems

Organizations face many different information challenges, from accommodating a rising number of online transactions to uncovering hidden insights in tremendous volumes of data. These challenges create characteristic workloads that stress the underlying systems in different ways. By tailoring systems to specific tasks, organizations can deliver exceptional performance while helping to increase IT efficiency, maximize the value of investments and provide a competitive edge.

IBM workload optimized systems integrate hardware, software and services to deliver analytics prowess and processing power. These smarter systems are designed to seamlessly manage multiple virtual workloads, as well as scale both up and out as workload demands change and grow.

Transactional

IBM pureScale™ Application System integrates DB2, IBM WebSphere® Application Server and IBM Power® 770 servers with IBM DB2 pureScale clustering technology to provide optimized performance for transactional workloads and near-linear scale-out efficiency. By spreading the workload across multiple servers in the cluster, pureScale Application System also helps ensure 24x7 availability to keep transactions flowing during planned or unplanned maintenance.

Analytical

IBM Smart Analytics System provides a comprehensive, flexible system of business intelligence (BI) and data warehousing software and IBM server and storage hardware that is optimized for analytical workloads and enables you to rapidly deploy business analytics. Based on IBM Cognos® BI and IBM InfoSphere™ Warehouse software, the IBM Smart Analytics System delivers a scalable warehouse foundation with broad analytic capabilities such as multidimensional Cubing Services, data mining and text analytics, dashboards and reporting.

The IBM Smart Analytics System is available in multiple configurations based on different IBM hardware platforms, including IBM Power Systems™, IBM System z® and IBM System x®, enabling organizations to select a system that best meets their current needs and can scale to handle future growth. For more complex workloads, businesses can add optional modules—including solid-state device (SSD) storage—to further improve response time and boost efficiency.

The IBM Netezza® appliance simplifies analytics through a focused approach. This dedicated appliance gives companies a complete, high-performance analytics solution that is easy to install and operate, as well as highly cost-efficient. Built on IBM System x, Netezza appliances can be used alone as a base for a specific analytics application, used as a cross-enterprise data warehouse or deployed as a satellite data mart in conjunction with an existing enterprise data warehouse to address a specific analytic need within an organization or location.

Information integration

Coupled with massive data growth, data silos are a major contributor to skyrocketing information management and integration costs. When data is trapped in disconnected silos, business leaders cannot be sure that they have a full understanding of the company's customers, products and vendors. Silos also increase the difficulty of complying with industry or government regulations.

Information integration strategies and technologies make it possible to retrieve data from any source, then format and deliver it to any target—inside or outside the enterprise—at the right time. Information integration enables organizations to perform many critical tasks, including loading data from multiple sources into a warehouse, consolidating instances of applications and linking information together across departments and divisions. By treating enterprise information as a single resource, regardless of where it resides, businesses can process information quickly, reduce downtime, minimize customer service issues and distribute information with minimal performance impact.

IBM information integration solutions are designed to integrate and transform data and content to deliver authoritative, consistent, timely and complete information, and to govern data quality throughout the data life cycle. Their seamless, linear scalability and metadata-driven design can help companies unite disparate databases into a single, consolidated pool of information and identify and correct inaccurate or redundant data.

IBM InfoSphere Information Server facilitates the delivery of accurate, integrated data across the enterprise to help expedite transactions, streamline operations, support customers and partners and help business leaders make smarter decisions.

InfoSphere Information Server also helps companies align business goals and IT activities by providing a consistent understanding of what things mean. It is designed to capture business specifications and use them to automate development tasks— offering deeper insight into data by tracking its lineage. In addition, the software enhances overall project productivity by promoting collaboration during development and creating a set of reusable assets to drive ongoing value across multiple projects.

IBM InfoSphere Foundation Tools help companies establish and execute an information governance strategy. By enabling discovery of related data that is spread across heterogeneous systems, InfoSphere Foundation Tools can help organizations design trusted information structures for business optimization and govern them over time. Capabilities include information project blueprinting, data discovery, common business vocabulary creation, data quality compliance, data modeling and

mapping, transformation rule specifications creation and information lineage determination. These capabilities are tied together through a shared metadata repository.

IBM InfoSphere Discovery speeds time to value for information-centric projects by creating a 360-degree view of data relationships across heterogeneous sources. By intelligently capturing relationships and determining applied transformation and business rules, InfoSphere Discovery can identify and document what data exists, where it is located and how it is linked across systems. Using InfoSphere Discovery can help you accelerate the time to value for critical initiatives such as data integration, governance and archiving.

IBM InfoSphere Streams supports continuous analysis of massive volumes of structured and unstructured data streaming in from thousands of real-time sources to help you improve the speed and accuracy of decision making. It also provides an execution platform and services for user-developed applications that ingest, filter, analyze and correlate that data. Plus, it helps you compose new applications in the form of stream-processing graphs that can be created on the fly, mapped to various hardware configurations and adapted as needs change.

IBM InfoSphere Mashup Hub helps organizations quickly merge data from databases, Internet sources and desktop applications into visual applications—without requiring long lead times, new staff or new skill sets, and without disrupting existing projects.

IBM Industry Models capitalize on deep IBM expertise and best practices collected through more than 500 client engagements and more than 10 years to offer businesses and IT communities blueprints for building industry-specific data warehouse, business intelligence and service-oriented architecture (SOA) solutions. Part of the IBM InfoSphere portfolio, IBM Industry Models can help you reduce risk and accelerate projects by using prebuilt data models and business process models.

Data warehousing and analytics

By providing a centralized repository for enterprise information, data warehouses support sophisticated, real-time reporting and analysis to help organizations gain valuable insight and develop a competitive advantage. Data warehousing software also offers capabilities for storage and performance optimization to reduce the cost of managing analytical information.

IBM data warehousing offerings help organizations simplify enterprise data warehouse development, implementation and maintenance using a comprehensive suite of integration, modeling and deployment tools. These tools provide multidimensional analysis to help you distill large amounts of structured or unstructured content into actionable business intelligence. They can also help boost data warehouse performance through compression and performance monitoring features. Furthermore,

companies can leverage integrated analytics, workload management, performance management and in-memory cubing to transform information into insight.

IBM InfoSphere Warehouse, powered by DB2, offers a comprehensive, powerful and scalable foundation for data warehousing that includes data mining, archiving and compression, text analytics and performance and workload management capabilities. In addition, InfoSphere Warehouse software provides seamless support for IBM Cognos and other business intelligence and reporting tools that can help your company react to changing marketplace conditions in real time.

Master data management

Master data management (MDM) platforms play an important role in delivering a unified, complete, consistent and standardized view of key entities such as customers, patients, suppliers, products, locations and accounts. By providing a framework to manage those entities outside of any individual application, MDM software helps ensure that the enterprise has a single trusted view of information that is synchronized across all systems at all times.

IBM MDM offerings perform tasks ranging from a simple cross-reference of records to serving as a full-fledged data hub for records that synchronize key systems (see Figure 1). A consistent view paired with enterprise data stewardship capabilities for person and product records can help you reduce information

errors, eliminate duplicate data and meet growth, revenue-generation and cost-reduction goals by operating more efficiently. IBM MDM offerings are designed to provide flexible and rapid deployment, industry-leading matching and linking and comprehensive governance capabilities.
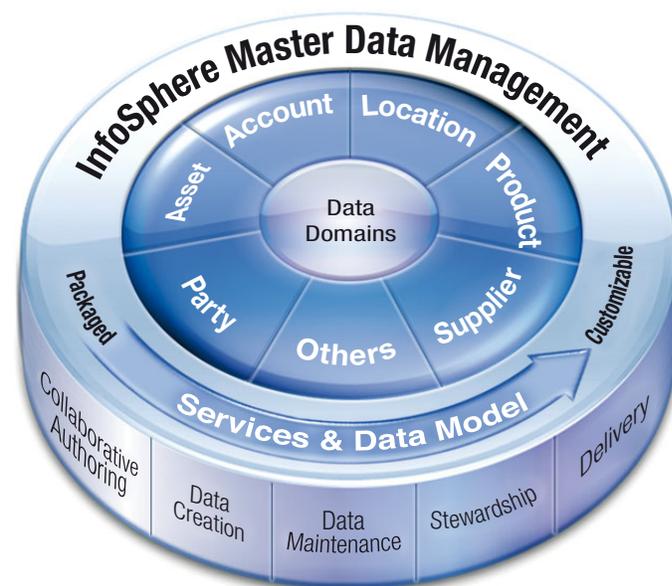
Figure 1: InfoSphere MDM capabilities combine to provide a consolidated central view of an organization's key business facts.

IBM InfoSphere MDM Server is designed to address a wide range of business requirements within and across industries. By supporting multiple deployment options and implementation styles, InfoSphere MDM Server helps companies master customer and product data as well as other industry-specific data domains. Delivering a single version of truth of critical data assets and their relationships also enables InfoSphere MDM Server to help organizations produce better business outcomes and minimize cost and risk.

IBM Initiate Master Data Service assembles a single view of master data and relationships from across existing systems, and can deliver these views whenever and wherever they are needed. It offers preconfigured healthcare solutions including:

- IBM Initiate Patient: Deliver a single view of the patient across data domains for current and future information sharing requirements
- IBM Initiate Provider: Integrate with existing systems and data sources to accurately match and link different representations of provider data to create a master view
- IBM Initiate Exchange: Connect heterogeneous care environments to make information available at the point of service

IBM InfoSphere MDM Server for Product Information Management enables companies to create a single, up-to-date repository of product and other core information that can be used throughout the organization to support strategic business initiatives. A flexible data model, workflow collaboration tools, data aggregation and syndication capabilities, and granular access privileges enable organizations to represent their specific information needs and business objectives accurately.

IBM InfoSphere Identity Insight is a real-time entity resolution and analysis platform that can help you mitigate threats and reduce the incidence of fraud. InfoSphere Identity Insight provides distinguished identity and relationship disambiguation technology so you can confirm the true identity of individuals and gain a clear understanding of multifaceted relationships. Its complex event processing capabilities enable you to form a complete picture of how individuals interact with your organization, so you can recognize and eliminate risks.

Governing your information supply chain

Finding the data you need within your organization is one thing—but to use that information to make critical business decisions, you must be sure it is fresh, accurate and authentic.

Trusted information helps you meet regulatory compliance demands, sustain profitable growth, mitigate risk and predict future outcomes with greater confidence.

Building trusted information starts with ensuring data quality across the enterprise. This means that data is standardized, each record is unique and records are certified against authoritative sources. In addition, you must be able to understand the lineage of the data.

Information governance solutions can help organizations manage information over its lifetime to ensure compliance while reducing costs and risks. IBM information governance offerings are designed to help you document your information supply chain to understand how it supports your key business initiatives, then validate the flow of trusted information and establish requirements for information quality, protection and life-cycle management (see Figure 2).

These tools can be deployed rapidly, are designed to support key enterprise applications and provide integrated data discovery capabilities to help give you the confidence that information within your systems is current and consistent.
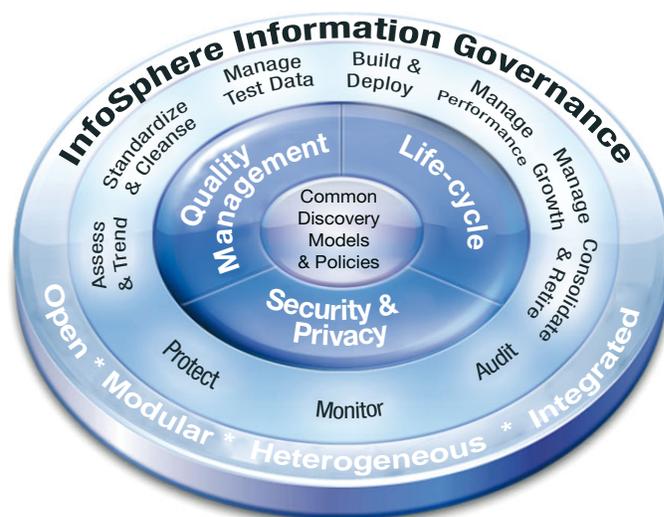
Figure 2: The IBM information governance portfolio includes the policies, practices and technologies that allow you to monitor and control quality throughout the data life cycle.

IBM InfoSphere Optim Solutions provide a complete set of capabilities for heterogeneous data lifecycle management to help ensure trusted information from requirement to retirement. **The IBM InfoSphere Optim Data Growth solution**, for example, tackles data growth problems at the source by enabling you to archive historical transaction records and store them securely and cost-effectively. The enhanced archiving capabilities help reduce the growing costs of database management and maintenance and help improve the performance of mission-critical ERP, CRM and custom applications. The solution can also speed reporting and help ensure that mission-critical business processes are completed on time.

IBM InfoSphere Optim Test Data Management solution and **IBM InfoSphere Optim Data Masking solution** offer comprehensive test data management capabilities for creating right-sized, fictionalized test databases that accurately reflect end-to-end business processes. The tools help users eliminate costly cloning processes and correct defects early in the development process, when they are cheapest and easiest to fix. These solutions are designed to scale to meet growing development and testing requirements across applications, databases, operating systems and hardware platforms. The data masking capabilities obscure sensitive data effectively across nonproduction

environments, while still providing realistic data for use in development, testing or training. By masking confidential data, organizations can protect privacy and safeguard shareholder value.

IBM InfoSphere Guardium® software provides a full set of capabilities for data security and privacy to help protect enterprise information and ensure consistent use and governance of that information by enforcing essential safeguards for trusted information architectures. The real-time database activity monitoring and vulnerability assessment features, for example, help to protect the privacy and integrity of trusted information in heterogeneous environments by automating the entire compliance auditing process, which can also reduce costs. Organizations can use InfoSphere Guardium to proactively identify suspicious activities by authorized and unauthorized users while continuously tracking all database actions. It provides monitoring capabilities to help identify end-user fraud and simplifies compliance and data privacy processes with preconfigured reports and automated oversight workflows. Furthermore, this solution supports information governance by preventing unauthorized changes to critical database values or structures.

Master your information with IBM Information Management

IBM offers a comprehensive, integrated portfolio of information management solutions to help your organization gain deeper insight, make better decisions and manage risk more effectively.

IBM solutions enable you to bring together information from heterogeneous environments, build data warehouses for business analytics, sustain data governance and gain a unified, master view of enterprise information—all while facilitating efficient management of information throughout its life cycle. Because the solutions within the IBM Information Management portfolio are complementary, you can implement what you need now and add new capabilities as your company's requirements change. All of the solutions are built on the deep expertise and experience of IBM and backed by worldwide services and support.

Ready to master your information? IBM Information Management is ready for you.

For more information

To learn more about IBM Information Management solutions and services, please contact your IBM marketing representative or IBM Business Partner, or visit the following websites:

- **ibm.com**/software/data/management
- **ibm.com**/software/data/infosphere
- **ibm.com**/software/data/services/overview.html

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit: **ibm.com**/financing

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