

An Information Agenda Completes IBM's Information On Demand Initiative

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Management Summary

The role of information in business has changed and expanded as business has morphed from a societal art to include more and more automated processes. Visibility into those automated processes is limited by fewer human touch-points. While there are many opportunities to capture process detail as digital data, it does not easily yield comprehensive intelligence as effectively as a manager's stroll around the shop floor, store aisles, or cubicles. Dashboards and business intelligence software are starting to address the need for operational insights beyond the bottom line, but they only yield the information they are designed to produce.

With the extension of sensor data and the development of role-based situational applications and mash-ups, the effectiveness of all workers often depends on multiple informational assists that enrich the processes of business. However, many organizations still treat business information like books on a library shelf – nice to have and a good indicator of smarts – but not something they can use opportunistically or often. Yet corporate information is an effective source of business differentiation – because it is, by its nature, unique.

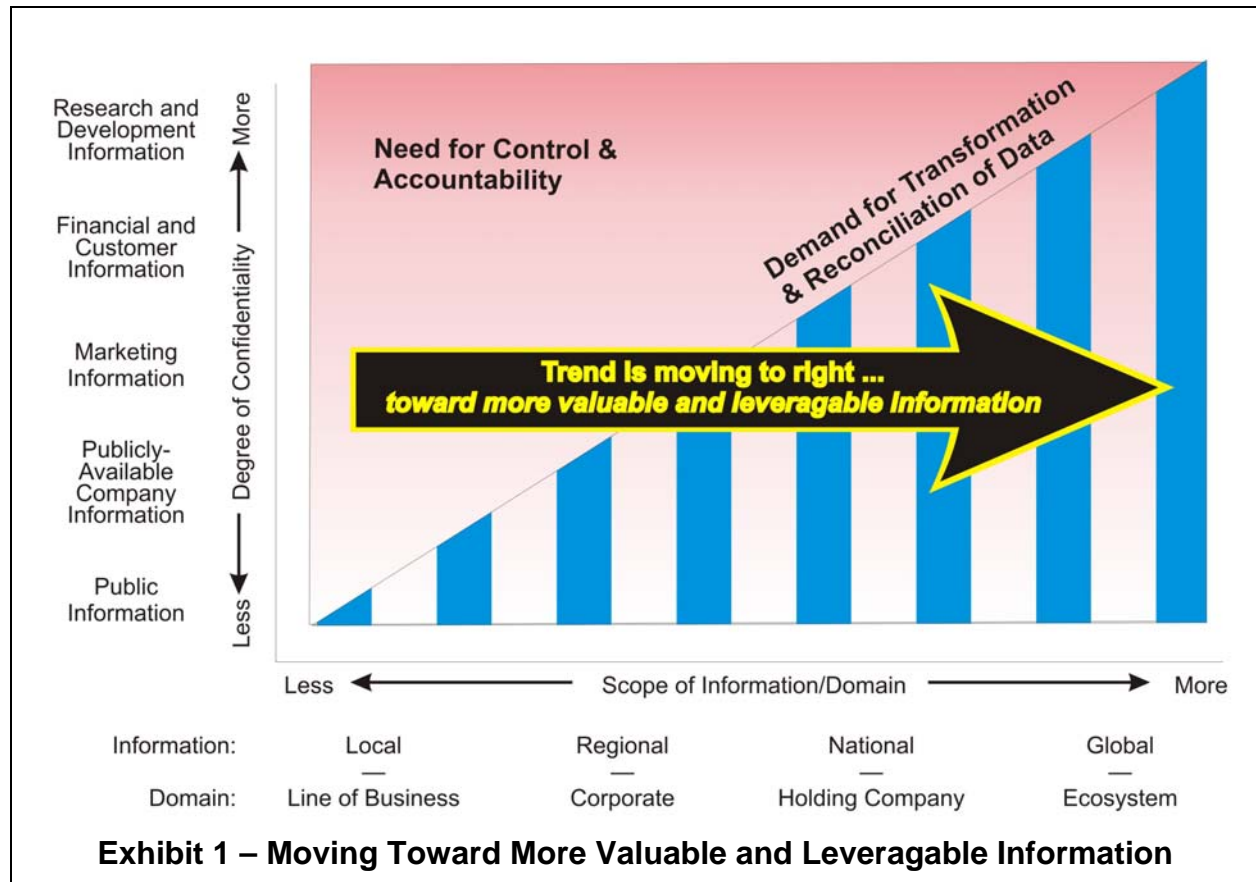
If you are using publicly-available information, aggregation is straightforward – but the benefits tend to be tactical rather than strategic. Competitive differentiation and strategic opportunities are more often revealed by information generated by the business itself. However, using such information is not always as straightforward as using information groomed for public use. *Business information* is often contextually constrained – different business units use different information about, say, a product, and evolve it at different rates. *Information inconsistency*, particularly in a digital age where who said what where is hard to determine, is a large problem. The ideal of information consistency is hard to support in an era of rapid change. It is stymied by mergers and acquisitions. It is obstructed with regional traditions and national regulations. It is complicated by the invention, not just of new terms but also of new things to care about, and new ways to go to market. As an accessory to metadata disciplines, transformation services offer a flexible way to rationalize enterprise information. (See Exhibit 1 on the next page.)

With IBM's *Information on Demand (IOD)* imperative, a very different information paradigm has been introduced, for *Demand* puts the power with the users and implies information rendered as a repeatable, expandable, evolvable service – not merely access to the same old process-as-usual. The capabilities that support this aggressive use of information are not your usual technology buy. The speeds and feeds required are not merely more, but depend on the nature of the business and the focus of its strategy. Most organizations will not need one of everything – and what they need will change. What is *enough* depends on the shortcomings of existing business processes and the ambitions of the business. Addressing your information challenges piecemeal can create more silos of information. Organizations need an approach that is comprehensive, consumable, and effective.

Since 2006, IBM amassed a stockpile of software capabilities to support Information on Demand. Now it has integrated those capabilities into an open, standards-based platform that supports a vast array of third-party and IBM products. For organizations wishing to do more with their information, it now offers an *Information Agenda* implemented by tools for appraisal and triage of the existing situation and roadmap development assists. It uses metadata controls to make efforts cumulative, not just to more projects, but also into a more comprehensive *information use strategy*. For more details of this extensive and flexible offering, please read on.

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Next Gen Business Optimization

For years, IT has focused on the challenges of scalability and availability to ramp up business processes to a scale that will support spectacular success. During the early years of the Internet Era, there were enough new consumers coming on-line, and enough money to be made by making processes self-service and online, to make massive scalability a very good design point. It is still a good design point for IT systems – but as a design for *business strategy*, the translation of IT capabilities into business-value deliverables, and vice versa often has fallen short. What is best to do – at a time when many things are possible – is now a more complex choice.

Service Orientation Flips the IT Stack

In the past few years, IBM has built out a comprehensive breadth of capabilities focused on the management of both structured and unstructured information. This could easily be overwhelming to customers, but with a customer orientation and service mode, the context of the customer’s specific challenge quickly drives a handful of alternate scenarios – including elements IBM has open sourced, as well as competitors’ products, that give customers choice in strength, controls, openness and budget, while leveraging what they already have. In addition, IBM’s hardware platforms offer

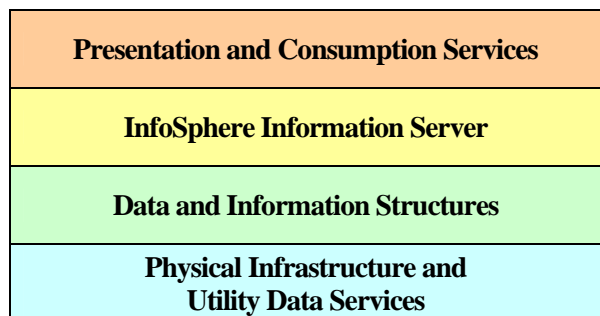
a range of virtualization, control, and security elements that let customers determine the best fit for their situation. It is all part of a broader look at service requirements.

In considering the Information Agenda, the traditional bottoms-up stack is viewed more usefully from the top down, as shown in Exhibit 2, below.

Presentation and Consumption Services

Presentation and consumption services, including technologies like portals, widgets, presentation servers, and amalgamators, such as *WebSphere Mashup Center*, must support the end-points that

Exhibit 2 – Information and Services Layers



Source: IBM

the business finds most convenient – which may be cell phones. They must support role-based filtering of the information that is provided to suppliers and partners. They must adapt deftly to the needs of new stakeholders.

The integration of *InfoSphere Integration Server 8* with *WebSphere Portal* allows the creation of portlets with visible transformation logic that can be targeted at specific workers. This design consideration is more than a late stage format conversion once multiple applications, widgets, and information feeds are involved. Once you are designing *On Demand*, multiple modes of delivery will be the norm.

Business value within this layer is added by Business Intelligence and Performance Management elements, which, again, can be tuned to particular roles. One should note that with IBM's *DWE Data Warehouse*, *Alphablox*, and other analysis tools could also be embedded within the data warehouse. This gives customers a choice – when the data is huge, doing the analysis close to the data is quicker – but most roles want local capabilities as well. With the *InfoSphere Information Agenda*, businesses can address their particular needs.

InfoSphere¹ Information Server

Three more tiers underlie this business-side prowess. Next to the presentation tier comes *IBM InfoSphere Information Server*, the software that can discover, cleanse, and transform information from federated sources to produce trustable information. (For enhancements in the latest version, see Exhibit 3, to the right.) It provides the flexibility and governance (see IBM deliverables, below) to coordinate the expanding use of information in various contexts that is business as usual for most organizations.

Data and Information Structures

What information the often-mobile workers need will generate a series of demands on the next tier, which are the information repositories, databases, and indexes that represent the collection-level logical controls of corporate information. These repositories can be linked in a federation by Information on Demand transformational services and accelerators, as well as by more traditional means.

Physical Infrastructure and Utility Data Services

Depending on the nature of that information, availability, encryption, retention, and access control come into play – capabilities that IBM has

¹ Recently, IBM has clarified its WebSphere and InfoSphere brands. WebSphere is for application middleware, and InfoSphere is for information middleware.

Exhibit 3 – Enhancements to InfoSphere Information Server 8

InfoSphere Information Server (ISIS) is available on all of IBM's platforms, and recently (in ISIS 8) has been enhanced with the following.

Global Project Support

Here, IBM addresses the consistency challenge of projects and products with international scope. This is particularly evident in the particular instance of *InfoSphere MDM Server for Product Information Management* (formerly known as *WebSphere Product Center*), which contains the workflows and attributes needed to launch products and manage the bevy of offerings and discounts that occur subsequently.

Now, it offers *Global Name Recognition* and *QualityStage Worldwide Address Verification* for 240 countries, available in region-specific packages. *MDM Server for PIM* is available in nine languages. Its deployment controls have been further enhanced to support specific projects, which is in most cases an important granularity. Pre-built templates for easy invocation of data cleansing by various stakeholders have been added.

SOA and Grid support

- All ISIS elements can be published as shared services. With version 8, IBM has gone beyond EJBs and Web Services to support JMS Objects and REST and RSS (the darlings of Web 2.0). It can also publish services from Oracle, VSAM, etc.
- For grid or server farm deployments, an internal management console automatically reconfigures parallelism to fit available resources. At execution time, it locks resources to ensure performance. And, it can be managed by external grid resource managers – not just Tivoli, but third party managers as well.

Enhanced Mainframe Support

- ISIS 8 allows access to mainframe data sources without requiring the presence of *MQ Series* software. JDBC 3.0 SQL compatibility facilitates the import.
- ISIS 8 has PL/1 metadata support and an IMS log-based capture agent.
- ISIS 8 supports VSAM-to-VSAM replication.

Source: IBM

recently made part of its storage products that are, traditionally, at the bottom of the stack. For customers using less potent storage, a layer of appliances – or capabilities in switches – can supply the

needed data protection, rapid availability, encryption, search, and guaranteed retention, albeit in a less elegant fashion, with more overhead and points of failure.

IBM IOD Information Agenda

This new effective use of a business' information is a powerful business tool. However, in order to know what you can do with the information, you must have a comprehensive sense of the information with which you have to work. Approaching this task is best done as a system of disciplines. IBM offers tools to get started, others that can craft a path toward a desired state, accelerators useful in specific situations, and competency centers for exploring alternative scenarios for dealing with a unique set of requirements (a.k.a. *a situation*). In many cases, critical business processes and their easy evolution will be the high-priority determinant of what *new* information demands must be supported by the infrastructure.

Foundation Tools – the Jump-start

There are certain capabilities that are needed at the start of any initiative. Metadata discipline and controls are at the heart of using business information appropriately. Discovery of declarative components is the basis of examining the existing state and determining the requirements to get to a desired state. Discovery is a more flexible and self-sustaining approach than reliance on central lists that must be maintained and policed. Governance sets parameters to make points of control and disciplined use of metadata more rational and less didactic. (Think of the *what not to do* of the *Ten Commandments*.)

All these functions are supported by the Foundation tools. All the tools integrate with *Business Glossary* and *FastTrack*. They also all work with *any* business intelligence tools, data warehouses and any commercially-available extract, transform, and load (ETL) products.²

The foundation tools are now available as stand-alone products. Many customers want to assess and rationalize their information sources as a separate initiative. The tools will also be released to qualified IBM business partners. Their industry-specific expertise, in conjunction with the IBM InfoSphere Foundation tools, can accelerate the time to information rationality as a service – something sincerely desired by most organizations.

² This is what IBM calls *open*. In a change of strategy, IBM states it will keep the foundation tools open to heterogeneous elements, and not predisposed to IBM products.

IBM Foundation Deliverables

- *IBM InfoSphere Metadata Workbench*

The *IBM InfoSphere Metadata Workbench* manages both design metadata and operational metadata. Metadata rationalization is at the heart of information rationalization, as it is metadata inconsistencies, and the diverse data definitions that underlie them, that compromise data quality and trust.

- *IBM InfoSphere Business Glossary*

The Business Glossary Captures and evolves the taxonomies of a particular business and associates terms with source fields. This reduces the chasm of misunderstandings between business users and IT. It can be embedded as a widget in any desktop application – giving business users ready reference to appropriate terms to use.

Business vocabulary constantly evolves. A search engine embedded in the glossary eases the task of propagating new terms and their relationship to existing terms that is a significant part of the realm of Data Stewardship.

- *IBM InfoSphere Information Analyzer*

Information Analyzer profiles and analyzes data and monitors rules enforcement. For many enterprises with a well-developed data landscape, this gives a kind of control across and between application data that can make the difference between order and chaos.

- *IBM InfoSphere Data Architect*

This is a repurposing of *IBM Rational Data Modeler*. It supports data discovery, modeling and mapping. It can discover relationships between data existing in different data sources. This is particularly important in enterprises dependent on partnerships with external organizations.

- *IBM InfoSphere Fast Track*

Fast Track is the vehicle for specifying metadata parameters and adding discipline to corporate data. It can capture specifications in either business language or as a macro. This level of detail is particularly important in data test cases and for data transformation.

Building an Information Agenda

Having set necessary parameters and discovered the existing state, it is useful to have some reality checks when setting goals and roadmaps. The experience of others can help here – whether via IBM's industry-specific wheel-shaped guides³ of common business processes, templates, and governance best practices, or workshops led by IBM's subject matter experts. Each affords the opportunity to explore gaps in assumptions and

³ IBM offers 19, and is developing more.

expectations. All allow businesses to focus and triage requirements into a roadmap with early payback, and to do so in an affordable way. Used with the Foundations product set, these models and workshops are extensible in a cumulative, rather than iterative, way.

Information Agenda development can also be obtained as industry-specific services. Both approaches will speed development and time to payback. Which a company will choose will be a matter of time, money, and cultural preferences.

Information Accelerators

IBM also offers over 140 industry-specific *Solutions* that can get a project optimizing use of corporate information into deployment faster in challenging situations where time is of the essence. It gives you a choice of over 50 performance management approaches, as products or by connectors, attachability to over 45 content management products, in addition to the 45 InfoSphere elements. The breadth of options is made possible by a separation of concerns built into this information agenda and by the support for the open standards to build out the needed connective hooks. It is made simpler by the on-demand imperative, which shifts the focus from products to customer requirements.

Institutionalizing IOD (Competency Centers)

Competency Centers represent an opportunity to aggregate expertise as needed. They can be IBM- or customer-sited, or they can be virtual, via on-line collaboration. They are the *completer* that lets an organization explore evolutionary alternatives without spending a lot of money. They are also an occasion to glean feedback from relevant parties, which lets you evolve your use of business information as situations change. Without explicit evolutionary paths, and the platform to ensure congruence of information use initiatives across the organization, you may end up with capabilities that are monuments to last year's needs. These will probably not be helpful in taking your business to a profitable future

Conclusion

People have often been selective in the information they cherish. Some folks prefer to stay within a niche – but competitive businesses often cannot. The richness of the information assets now available to even a moderate-sized organization begs a new dedication to learning how to use a broad range of information assets well. IBM has broken past the barrier of product-specific capability to offer a business-centric array of tools and software constructs, such as repositories and databases, with which to create an armada of coor-

dated information strategies with which to optimize business operations, performance, and strategy. It is time to learn to sail these new craft if you wish to reach your harbor of choice.

This goal demands a comprehensive approach to organizational use of information. IBM's IOD offers vast breadth mitigated by an agenda focused specifically on customer requirements. Together, they make the Information on Demand vision actionable, which just may be what you need.



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