

# I D C   E X E C U T I V E   B R I E F

## **Enabling Better Decisions Through Unified Access to Information**

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*Adapted from [Unified Access to Content and Data: Delivering a 360-Degree View of the Enterprise](#) by Carl W. Olofson, Susan Feldman, Henry D. Morris, and Dan Vesset*

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### **Introduction**

At many organizations, valuable information about customers, products, and services is created and stored in disparate systems and is in both structured and unstructured formats. For end users searching for information, the format of data is irrelevant; they want to be able to leverage both kinds of data together to solve problems, assess trends, and make better-informed business decisions.

Traditionally, IT has struggled to provide end users with unified access to information, due to obvious challenges of data structure as well as syntax, meaning, and search-related issues. However, at a time when access to accurate information is critical — in terms of providing customer service, fostering relationships, and meeting legal and regulatory obligations — organizations are increasingly seeking ways to bridge the gap between structured and unstructured data sources.

IDC believes that information access applications that combine data and content from multiple sources will drive growth for both the business intelligence market and the search and discovery software market. Their popularity is already evident: In 2007, the search and discovery software market topped more than \$1.8 billion, for a growth rate of 28%. According to IDC, one of the main engines driving this growth is the increased demand for unified access to information. Technologies that address this issue include data integration platforms and information access platforms that combine, within a single interface, features of business intelligence, databases, search and discovery technologies, and possibly workflow and collaboration.

To meet this burgeoning need, vendors are providing technologies designed to allow end users to quickly and easily access disparate data types, and do so in a manner that is transparent to them.

In effect, structured and unstructured data are converging in the eyes of end users to become information that they can then use to perform analyses.

This Executive Brief discusses the factors and trends driving the convergence of structured and unstructured data and why combining both into information that is relevant and meaningful to end users is a critical business capability.

## **The Need for Unified Access to Information**

For many years, end users have needed and wanted something very basic from their computer systems — the ability to ask a question and get an answer, without having to log in to several different systems, use multiple applications and query tools, and know complex query syntax. Three years of IDC surveys indicate that unified access to both content and data within the enterprise was one of the top 3 requirements cited by thousands of enterprise IT and business users when asked about their needs for content integration and for application integration. In effect, organizations flounder because their employees can no longer find everything they know about any topic. As a result, organizations can't relate their customer emails to their sales data or their warranty claims. Worse, they are at risk because employees are making decisions based on incomplete information. The growing awareness of this situation is driving demand for unified access to information.

A key reason that users have been frustrated in their efforts to get simple answers to important business questions is that up until fairly recently, computing applications have been segregated based on the types of data they handle, with some systems managing only structured data and others dealing with only unstructured data. Typical business applications that contain structured data include ERP systems, CRM systems, PLM systems, SCM systems, and HR systems. Unstructured data, on the other hand, is found in email, text-based documents, Web pages and RSS feeds and as content in rich media formats including video, audio, and images.

Structured and unstructured data management have evolved separately for some fairly straightforward reasons. Structured data applications organize and quantify specific structured sets of facts, the scope and domain of which are fixed and predefined. Such structured data is used by computers to calculate values, correlate discrete facts, keep fixed records, and generate reports. In effect, structured data is the "fuel" that is used to perform large-scale scientific or business calculations or to manage quantitative records for such areas as accounting or inventory.

The emergence of unstructured data corresponds with the development of the personal computer and subsequent desktop applications as well as the Internet. Although data-based applications were first on the scene, they manage only about 15–20% of enterprise data today, with the rest residing in content applications. Unstructured data, commonly called "content," is

managed by applications that handle text, video, audio, and image files. Essentially, the data contained within such applications is meant to be used by people to create, manipulate, manage, edit, find, and render content for other people to use. With such applications, context becomes particularly important due to the ambiguity and multiple meanings of words.

From the perspective of IT professionals, structured and unstructured data are completely different and very hard to relate. The applications that use these different kinds of data are very different, and even the vocabulary associated with structured applications and data is very different from the vocabulary used to describe content and content management.

From a user's perspective, however, it is maddeningly frustrating that, for example, to get a complete view of a customer, one must run a database report (say, collecting basic information about the customer, billing information, payment history, purchase history, and so on), scan emails about the customer, and find letters or other documents by or about that customer that may reside somewhere in the system, all as separate actions. These actions are uncoordinated, and there is no assurance that the information retrieved is current, that any of the collected information is relevant to any of the other collected information, or even that all the information collected is about the same customer. That's just one simple illustration of the problem.

While making structured data understandable to end users and unifying it with unstructured content can be a highly technical procedure, the reasons for doing so are decidedly less abstract. Unifying information no matter its structure and providing end users with easy access to it can greatly enhance a variety of business initiatives. For example, organizations can improve their eDiscovery efforts and regulatory compliance practices by enabling end users to quickly search for and access relevant information that is consistent, current, and complete. Such unified access to data can also contribute to an organization's competitive stature. For example, providing customer service representatives with "a single view of the truth" of a customer relationship can enable exceptional service in a competitive market. In effect, enterprises can use existing BI technology to analyze more corporate data by unifying — through integration — structured and unstructured data.

The need for and challenges associated with unifying both structured content and unstructured data into useful information will only increase. With the growth of Web 2.0 data types, including blog entries, video clips, and audio files, and continued reliance on the structured data contained in databases, end users are increasingly dependent on both structured and unstructured data. Delivering the relevant data end users need — no matter the format — is a business-critical mission for IT departments.

## ***The Business Case for Unifying Information Access***

At many organizations, there is a critical need to utilize all the available information to identify the best, most productive ways to manage relationships with customers, partners, and suppliers, as well as to comply with regulatory requirements and prepare for litigation.

In the absence of unified information management, enterprises are exposed to significant costs and risks, which include:

- Mishandling customer accounts due to inconsistent, incorrect, or missing customer information
- Misreporting financial data or failing to satisfy legal requirements for how financial data has been represented in financial reports
- Failing to properly manage correspondence with customers, suppliers, or partners due to inconsistencies between application data and electronic communications, such as emails, possibly resulting in lost business or supply chain breakdowns
- Failing to take advantage of a business opportunity because the right business intelligence was not matched to situations that could be recognized in associated online content

Some practical examples of how end users can take advantage of unified access to information include the following:

- Tracking customer sentiment and feedback
- Managing product quality problems and warranty processes
- Researching financial securities
- Using blogs and news feeds as a source of customer knowledge and marketing
- Populating a CRM application with content from email tools
- Investigating and preventing crime

However, providing a unified view of disparate data sources can be challenging due to cultural issues concerning the ownership of data. Yet bridging the gap between structured and unstructured data can demonstrate that the business benefits are significant enough to justify the inherent organizational challenges.

## **Trends in Unifying Information**

Organizations began to recognize the need to integrate structured and unstructured applications to support a variety of end-user tasks only a few years ago. To provide unified access, data integration vendors are offering technologies that can extract content and deposit it into their data warehouses; search engine vendors also

offer technologies that pull data directly into their indexes or create hybrid data/content systems that interpret queries and send them off to separate data and content systems.

Other vendors have responded to the need to unify access to information as well; database management systems have the ability to maintain content, and content technologies offer the ability to dynamically incorporate the results of database queries and data calculations into documents, reports, and the like.

There are good business reasons for merging access to content and data. Unified access to information provides better discovery capabilities and support for corporate compliance requirements by ensuring that information is consistent, up to date, and comprehensive. When content and database technologies are combined in a single application, the computer system that results dynamically provides searching, formatting, assembly, delivery, and analysis of data and content. In practical business terms, this ability is particularly useful in areas such as regulatory compliance in which organizations have to provide better quality reporting.

End users can acquire important information about the organization and its customers through deliberate and convenient searches in terms that are relevant to them. Previously, end users discovered such information by accident or through significant effort on the part of the IT department. In addition, unifying access to data can enable more thorough analysis via BI tools because end users have more information at their fingertips.

There are four approaches to unifying access to content and data: turning content into data, turning data into content, leveraging both content and data technologies in the same application, and providing unified access via a layer that combines structured and unstructured data. Each approach to unifying access is primarily technical in nature, yet the result — providing end users with access to information — should be as seamless and transparent as possible.

Ultimately, unifying access to content and data leads to the ability to enable the acquisition, blending, discovery, and presentation of information from any combination of digital data sources based on the meaning inherent in, or associated with, the data. For end users, that means getting the information that is most meaningful to them, which often comes down to finding the relevant information they need when they need it and using that information to make well-informed business decisions.

## **Conclusion**

For years, end users have struggled to find the information they need about a given topic. With structured and unstructured data traditionally created and stored in separate applications, end users had no easy way to relate customer emails with sales information or warranty claims, for example. Without the ability to relate all pertinent information — in effect without a single view of the truth — end users

are at risk of making decisions based on incomplete information. And such decisions can have negative implications for an organization's ability to comply with regulatory requirements or prepare for litigation.

To provide end users with a complete picture of the information that is available to them, IT departments are deploying various technologies that integrate and then provide unified access to both data and content. With unified access to data and content, end users will be better equipped to make sound business decisions — including those decisions that affect customers, partners, and legal and regulatory obligations — because they have relevant information readily available.

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