

# From Content to Integration

Gaining Greater Value from Information



## White Paper

Any organization contemplating improvements in productivity would be well served to probe deeply into the way they handle information. Symptomatic of an information-troubled entity is one where data resides in multiple forms and multiple databases, where best-of-breed applications are deployed throughout the organization, where workers need access to content from a variety of sources but don't always know which source to go to for what kind of information, and where users have to manage multiple usernames and passwords to access different systems.

To help identify and address these kinds of issues, IHS is undertaking a comprehensive analysis to determine the interrelationship of content, applications and work processes across the typical enterprise.

Consider a hypothetical engineering-intensive manufacturing company employing thousands of workers engaged in making products for the commercial and government sectors. This company creates value in the marketplace through a 7-stage process:

- Research & Development
- Product Development & Design
- Strategic Sourcing
- Manufacturing Operations
- Quality Control
- Sales & Marketing
- Maintenance & Repair

Specialized information or content is needed by workers  
This content includes:

- Specs and Standards
- Military Specs
- Regulations
- Parts Information
- Validated Engineering Design Methods

Inside the organization various processes and computer-based applications are deployed to help carry out the functions. The list might include:

- Enterprise Resource Planning (ERP)
- Supply Chain Management (SCM)
- Computer Aided Drafting/Manufacturing (CAD/CAM)
- Product Data/Lifecycle Management (PDM/PLM)
- Supplier Relationship Management (SRM)
- Customer Relationship Management (CRM)

In the product development and design stage, for example, engineers may be working with a CAD/CAM and a PDM system, while at headquarters, sales and marketing people may be using a CRM system. At each of these stages, content from IHS containing specifications, standards, regulations, engineering data and parts information may play a critical role, either by

populating an application with data or by allowing access to data from within an application. Additionally, customer data and a host of other types of information may be scattered throughout the organization, some derived internally, some coming from suppliers, partners or customers, and some from third-party sources.

Given that the value of information is proportional to its accessibility, the challenge is to integrate all this information so it's available to those who need it, when they need it and where they need it.

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## How Do We Get There?

An IHS integrated content solution would give workers desktop access to the information they need across all organizational and technological divisions, within the application or program being used at the time. This desktop information solution would support better decisions and judgments by providing for the timely retrieval of complete, accurate and up-to-date information. It would avoid duplication of effort because knowledge created by others within and outside the organization would be instantly available and accessible. It would reduce or eliminate the time involved in hunting down information across divisional lines and in disparate computer systems. And it would reduce cycle time in product development and drive the improvement of business processes.

Two areas where IHS is focusing solutions designed to yield greater value from an organization's information resources include:

- Content Integration
- Parts Management

Content integration solutions allow streamlined access to IHS content from within commonly used applications rather than via the traditional IHS ERC delivery system, while parts management solutions leverage the IHS parts information databases, including HAYSTACK®, Parts Universe and CatalogXpress™, to help companies better manage parts data across their organization.

*Let's look at these two areas of focus in more detail.*

## Content Integration

IHS content has historically been available to users on paper or CD-ROM. While having the information in these forms continues to be valuable, even greater value is now obtainable by providing access to the information from within user applications at the desktop. Two solutions that IHS is developing include packaged software integration and knowledge management portals.

### Packaged Software Integration Solution

When a company finds that users are wasting time jockeying between software applications to carry out their tasks, or leaving an application to access IHS content on CD-ROM or hardcopy, it may signal the need for an IHS packaged software integration solution.

Having access to IHS content from within a user's packaged software application saves time and prevents interruptions in workflow. Users can bring in information they need to populate the application they are working with, or they can reach out to find what they need – all without leaving their program.

For example, engineers working for a supplier to a major automobile manufacturer needed access to the automaker's internal standards both to ensure standards compliance for their PDM/PLM application and for developing design solutions in their CAD/CAM application. Using an IHS integrated solution, they were able to access the standards from within both applications, increasing their productivity and reducing their liability exposure.

Or take the case of an equipment manufacturing company whose equipment requires UL (Underwriters Laboratories) certification to be sold in the North American and European markets. An IHS integrated solution provided the company with access to the UL database from within their strategic sourcing and PDM/PLM systems. As a result, the company's workers spend less time searching for information, more time being productive and have an easier time complying with UL standards so the company's products get to market quicker.

Single point access to IHS content through packaged software applications helps companies eliminate the need for keeping information on paper or CD-ROM. It also reduces search time and the need to transfer information from one application to another. As a result, decisions are made more quickly, users collaborate more effectively and compliance with specifications, standards and regulations is improved.

## Knowledge Management Portal Solution

Corporate portals dedicated to integrating information provide another solution to improve business effectiveness. Circumstances dictating the need for a portal solution include:

- Need for personalization or customization of a user or group's desktop view
- Need for a community environment with sharing of collaborative tools
- Need to share information with partners and/or customers
- Need to push data (notifying users when there are changes to data, such as a new spec or standard related to their work)

IHS teams with its partners to provide portal solutions. By leveraging Web technology, IHS can provide access to all of an organization's documents, all of its applications (from e-mail to CRM) and all its data sources (IHS, internal, or third-party collections) from a single interface. In the same way that a Windows® desktop supports personal productivity, a corporate portal supports enterprise productivity. It lets separate business units within a company and separate businesses within an industry work closely together by creating an expansive virtual knowledge base via a networked search capability to give users desktop access to documents as far away as the Internet and as close as the next workstation.<sup>1</sup>

Consider the situation of three major aviation/aerospace contractors working in a collaborative engineering environment to design and build a new aircraft. Each of the contractors subscribe to IHS Specs & Standards, a database of current and historical government and military specifications, drawings and standards. They also subscribe to IHS HAYSTACK®, CatalogXpress® (a database of supplier catalogs) and the IHS Universal Parts Center® (a database with over 119 million current and historical parts for the government marketplace). Moreover, they use ESDU™ for validated engineering design methods.

A knowledge management portal would allow engineers from the three contractor organizations to customize their desktops by bringing the content they need into the application they are working with. It would also facilitate collaboration on related tasks by allowing

desktop-to-desktop sharing of information. And when specs or standards are updated, the new information could be "pushed" across all three organizations via the portal. In essence, a portal solution could create a virtual collaborative community, uniting the three organizations in one working environment.

Plumtree has calculated the ROI for an information management, communication and collaboration portal for one customer at 200% (a \$2 million US return on a \$1 million investment). Another customer calculated \$6 million in productivity gains for a services, collaboration and information management portal, while a third estimated that \$27 million could be saved over 10 years through improved search efficiency and reduced time-to-market by deploying a knowledge management portal.

## Parts Management

The speed with which new products are developed and brought to market, coupled with the pace of parts obsolescence, demands ever-greater sophistication in parts management. IHS leverages a strong history in the parts industry to help customers manage their parts information in a variety of ways, including parts cleansing and parts obsolescence solutions.

### Parts Cleansing, Standardization and Enhancement Solution

Large companies frequently face situations that call for a parts cleansing, standardization and enhancement solution. A merger or acquisition may require marrying two software platforms, data models and business practices used to create and maintain parts information, and the new entity wants to ensure consistency and accuracy when combining the two systems. Or a company may be migrating to new enterprise IT software from a legacy system that holds outdated or incomplete parts information and wants to start with a clean slate, incorporating valid, accurate and up-to-date content.

IHS addresses critical business issues such as these by matching extracts of parts data from a user's data source against the vast quantity of parts information in IHS product databases in order to validate the parts information and augment it with up-to-date content.

As an example, IHS is working with a large electrical utility that acquired a number of companies and is now faced with the need to merge disparate parts data into a single Enterprise Asset Management (EAM) system.

The acquired companies have not only followed different business practices in entering the data, but also have suffered data corruption by allowing untrained personnel to enter parts information into their systems. The result is duplicate data, incomplete records and records with wrong information (such as incorrect technical characteristics, commodity descriptions that don't match the part numbers and inaccurate part numbers or manufacturers).

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To solve this problem, IHS is matching parts data from the acquired companies against the detailed technical characteristics contained in HAYSTACK®. This process allows us to identify technical inaccuracies, duplicates and "exceptions" (cases where the manufacturer's part number is identified with one commodity type while the description in the customer's database is identified with another commodity type). The customer's team of data analysts will review the exceptions and duplicates and decide how they should be handled. For items not found in HAYSTACK®, our CatalogXpress™ product is being used to validate the accuracy of the parts and manufacturers and augment the technical information.

By having data in their EAM system that's accurate and free from duplicates, less time will be needed in the plants to identify the parts required to keep the electricity flowing. Different plants can share inventory more effectively. The procurement team will expend less effort by not having to validate the accuracy of parts data before purchasing and by having fewer items to manage following the elimination of duplicate and erroneous records. Saving time and effort translates into significant cost reductions throughout the enterprise.

## Parts Obsolescence Solution

When equipment outlasts its component parts, organizations are faced with increased maintenance costs, expensive product reconfigurations and lost opportunities caused by pulling the equipment out of service, all leading to an unacceptably high cost of ownership. Military and commercial aircraft, for example, may remain in service for 30 to 50 years, while electronic components within the aircraft may have lifecycles as short as 14 to 18 months. With a parts obsolescence solution in place, engineers, product managers, service managers and procurement managers can stay informed about future supply chain issues and deal with them proactively before they become critical.

Parts obsolescence is especially critical in industries that rely on microcircuit technologies. Maintaining military aircraft is a case in point. Within a year and a half of deployment, systems designed into an aircraft may have evolved and be unavailable in their original configuration. Replacing these component systems typically requires a complex series of tasks. Users must look up a given item in disparate sources, signing into different databases with separate usernames and passwords, to gather information about Bill of Materials (BOM), specs, inventory, alternative parts and alternative vendors. Then they must assemble all this information into a spreadsheet for analysis.

This cumbersome process could be greatly simplified using an IHS parts obsolescence solution. A customer's BOM and parts data could be integrated with IHS content and then combined with a proactive obsolescence function such as a Web-based system that incorporates obsolescence forecasting. By leveraging a portal to allow users a single point of entry and by adding an advanced search engine technology for intelligent parts finding, the organization would have a formidable parts obsolescence solution.

One analysis done for the Defense Logistics Agency (DLA) <sup>2</sup> estimates an annual reduction of \$120M US (40%) in search costs and a \$61M (6%) decrease in component replacement costs through the use of a parts obsolescence solution, in addition to benefits that include:

- Minimizing equipment downtime
- Reducing sourcing costs
- Reducing re-engineering and re-certification costs and time

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## Conclusion

For today's large enterprise, the effective use of information and its conversion into knowledge is a critical process that supports all other business processes. In the quest for improved performance, proficiency in funneling just the right information to the point of need will help determine how well companies compete in their given industries.

This paper has presented potential solutions to some of the obstacles facing global corporations as they struggle to marry the tools of information technology with the tactics of implementation. Integrating content, applications and services across an entire enterprise is a daunting task, but one that could yield dramatic and far-reaching results. The future awaits those organizations that can master the management of information.

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<sup>1</sup> Source: Plumtree Software, Inc., San Francisco, [www.plumtree.com](http://www.plumtree.com)

<sup>2</sup> Source: "Savings and Benefits Report For Defense Sustainment Consortium E-Portal For Obsolete Parts Pilot Project", October 12, 2002



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