

## Global Content Management: Hewlett-Packard Talks the Talk of Worldwide Business

*HP's digital content management initiatives optimize  
the delivery of product content to global markets*

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Hewlett-Packard has over one billion customers in 178 countries worldwide. The company strives to make it as easy as possible for these customers to do business with HP. To meet this goal, its digital content management initiatives are specifically designed to provide HP customers with the right information, at the right time and in the right way. This case study describes how enterprise content globalization processes and information technology enable HP to communicate with customers in a single, consistent voice but in their own languages. HP's approach to content globalization reduces costs, improves customer satisfaction, increases revenues, and creates financial value for the company.



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### Introduction

Content Technology Works is an industry initiative, administered by *The Gilbane Report*, to develop and share content technology best practices and success stories. The premise is that when given enough proven recipes for success, enterprise consumers will be able to adapt and replicate that success for themselves—increasing productivity and confidence.

Success stories are written by *The Gilbane Report*, with final editorial control resting entirely in the hands of the adopter. The result is that:

- Vendors do not control content.
- Success stories are as opinionated and as jargon free as the adopter prefers.
- Analysis is included from *The Gilbane Report* and invited contributors

CTW case studies provide organizations with best practices in content technologies and strategies for securing funding, measuring actual value, and driving adoption. For more information on the CTW program, see page 22 or visit [http://www.gilbane.com/technology\\_works.html](http://www.gilbane.com/technology_works.html).

### Case Study Overview: Optimizing Global Distribution of Product Content

Hewlett-Packard Company has over one billion customers and a presence in 178 countries worldwide. Providing consistent, high-quality product content is essential to HP's business. 90% of its customers buy based on content, not on touching the product, according to Mario Queiroz, Vice President, Content and Product Data Management.<sup>1</sup>

This case study describes how HP has deployed a digital content management infrastructure in order to serve its global customer base, reduce costs, and increase efficiencies. It outlines the content management business processes that connect HP content owners with content consumers in local languages that enable commerce. It details how HP uses rigorous and repeatable regionalization, translation, and localization practices to interact with its customers. Finally, it lays out the results that HP has achieved to date.

The story starts in 1999 with product content for a single website in Japan. It ends with annual content globalization savings of approximately \$6 million, dramatically reduced costs of introducing new products, vastly improved customized product content for business customers, improved sales force efficiency, and lower infrastructure costs.

### Terminology

The Localization Industry Standards Group (LISA) describes localization as “the process of modifying products or services to account for differences in distinct markets.”<sup>2</sup>

Our focus in this case study is on localization as it applies specifically to the process of delivering product content in local languages and with local cultural sensitivities and legal requirements in mind. User interfaces, product functionality, and training materials must also be

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<sup>1</sup> As stated during Mr. Queiroz's presentation at the Gilbane Conference on Content Management, November 2004.

<sup>2</sup> *LISA: The Localization Industry Primer*, 2<sup>nd</sup> edition, 2003, p. 43.

localized for successful global marketing; issues associated with this class of localization are outside the scope of this case study.

The term “product content” as used herein refers primarily to structured and unstructured data and documents for sales and marketing materials that encourage companies and consumers to select and buy HP products. The primary outlets for this content are HP websites, although the company uses the same tools and processes for translating and localizing content for paper-based publishing.

We use the term “content globalization” as HP does. It refers to end-to-end processes and information technology for capturing, managing, and delivering content to worldwide markets.

### **Acknowledgments**

We gratefully acknowledge the generous contribution that HP made to the development of this case study. The company allocated the time of talented and heavily committed management for the purpose of improving the understanding and adoption of enterprise content technology. We especially thank the individuals with whom we spoke when researching the case study. Their passion for getting things right for their customers is a significant part of the HP story.

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The graphics used as illustrations herein are courtesy of HP and TRADOS Incorporated. The two companies work as partners in content globalization and speak publicly about the results that they have achieved with the deployment of business solutions based on their technologies.

### **Using this case study**

This case study outlines essential elements of applying content management and content globalization technologies to the needs of a worldwide technology and services enterprise. This is an individual story about one organization, HP. While HP's approach may not be universal, its success in solving critical problems is indisputable. It is not possible to generalize HP's approach into a universal formula, but there is much here that will be useful to other organizations facing the need to communicate globally with their customers and partners.

## In Their Own Words: The HP Perspective

*What were the symptoms in your organization that brought this need to your attention?*

“Our initiatives grew out of several goals: One, to serve our customers more consistently; Two, to reduce our cost structure at the corporate, product generation, and regional levels; Three, to better harness the global buy power of HP with our vendors. Technology would give us a way to accomplish these goals.” - *Pat Tiernan, Director of Business Engagement and Solutions Development*

“Just taking on more words [for translation] isn’t what we wanted. We wanted to improve the customer experience and standardize our web presence by eliminating the differences in the experience across our sites.” - *Pat Tiernan*

“At any given time, there are hundreds of localization projects going on within HP. We had no way to know what was being spent on translation and localization across HP. We couldn’t leverage the silos. We needed a way to have visibility into the processes in order to manage them better.” - *Alison Toon, Translation and Localization Manager*

*How did you identify what specific content technologies were appropriate?*

“Operating as a global company, we needed global content management capabilities for creating, managing, and delivering content.” – *Mario Queiroz, Vice President, Content and Product Data Management*

*Which vendors did you select and what were the overriding considerations?*

“GXT [now marketed as TRADOS Global Enterprise Suite] met our two key requirements for workflow and centralized availability of translation memories. It was also the only enterprise-class solution in the market at the time.” – *Alison Toon*

*How did you justify the funding and other necessary resources?*

“Our regional business unit in Japan was desperate for a tool that would speed up the process and simplify review of translated content. Once we proved its success, its adoption just took off.” – *Alison Toon*

*What were the most valuable lessons learned?*

“We learned to be our own system integrator because no services organization had experience with what we were trying to do. In the end, this put us ahead of the rest of the market.” – *Mario Queiroz*

“Scalability. Make certain that you establish your scalability requirements in detail and quiz the vendors until they can validate your requirements.” – *Pat Tiernan*

## Hewlett-Packard Company Background

Hewlett-Packard Company (NYSE, NASDAQ: HPQ) provides technology solutions to consumers, small and medium size businesses, enterprise organizations, and institutions in both the public and private sectors. HP's technology portfolio includes IT infrastructure, computers, printing and imaging devices, consumer electronics, and global services. HP revenue totaled \$79.9 billion for the fiscal year ended October 31, 4004. The company is ranked number 11 on the Fortune 500.

HP's mission is "to invent technologies and services that drive business value, create social benefit and improve the lives of customers—with a focus on affecting the greatest number of people possible."<sup>3</sup> To execute on this mission, HP spends nearly \$4 billion annually on R&D. The company generates on average 11 patents a day worldwide.

From its inception, HP made a commitment to good citizenship as well as to innovative technology. Last year the company contributed more than \$62 million in support of education initiatives, community programs, and nonprofit organizations throughout the world.

The content globalization programs and initiatives described in this case study are managed within the Content and Product Data Management (CPDM) Organization, headed up by Mario Queiroz, Vice President, Content and Product Data Management. This organization is one of seven groups reporting into eBusiness, Customer and Sales Operations (ECO), under the direction of Senior Vice President Olivier Kohler. ECO reports into Global Operations and Information Technology, headed by Gilles Bouchard, Executive Vice President. Bouchard reports to the President and CEO.

The point of describing the reporting structure is to illustrate the strategic importance of product content management at HP. This function is on par with other critical processes such as supply chain management, sales operations, and strategy, planning and communications. Content globalization is not treated as a hodge-podge of back room, skunk works programs. It has high visibility within the enterprise and is viewed as strategic to HP's market leadership, competitive advantage, and brand value.

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<sup>3</sup> <http://www.hp.com/hpinfo/newsroom/facts.html>

## The Problem: Content for a Billion Customers

### The Need: Make it Easy to do Business with HP

Mario Queiroz, Vice President, Content and Product Data Management at HP, says, “We constantly ask ourselves about market efficiency, about effective ways to connect with our customers. What is the most efficient way to get product content created by the business units out to them?” Up until several years ago, the traditional method looked like the “spaghetti” graphic that many users and vendors display in business meetings and at conferences. Multiple product organizations need to get their content out to multiple web sites. The size of the bowl necessary to hold the strands connecting HP business units to their customers was already huge. There were no larger bowls to be found after the Compaq/HP merger in 2002. According to Queiroz, the merged organizations hit the ceiling on scalability of the processes and IT capabilities that existed at the time. It was clear that HP needed to set about reconstructing its product content supply chain.

Queiroz’s group, the Content and Product Data Management (CDPM) Organization, began to plan a large-scale content management infrastructure that would replace the bowl of spaghetti with information technology, tools, and business rules that streamline the processes of connecting content and customers. Three functions are housed within CDPM:

1. Product lifecycle management and product data management (primarily structured data)
2. Marketing content management (structured data and unstructured content)
3. Product catalog management (structured data and unstructured content)

An efficient product content supply chain would require integrating the three functions, their data and content, applications, workflows, and content globalization and other business processes. Required capabilities would include content creation and acquisition, content management, translation, localization, and publishing technology, all on a scale sufficient to serve an enterprise of HP’s size and complexity.

The team soon realized that it faced two major obstacles: technology it needed was not commercially available as packaged software, and no external services organization had the experience and capabilities necessary to deploy and build out the infrastructure. HP would have to serve as its own systems integrator.

### Criteria for Success: An Adaptive Approach to Content Management

As a corporate philosophy, HP manages itself as what it calls an Adaptive Enterprise. The company believes that by consciously synchronizing business processes and IT, it is better able to adapt to change. As an Adaptive Enterprise, HP can respond quickly to changing customer demands and requirements, to changing market conditions, and to changing technology developments.

HP has identified four design principles for technology supporting its Adaptive Enterprise:

- **Simplification.** Simplify applications and systems to reduce complexity and risk.
- **Standardization.** Standardize the way IT assets are used with common components and processes.
- **Modularity.** Improve performance by developing and managing infrastructure components discreetly.

- **Integration.** Easily manage and modify the environment by combining modules to create solutions.

The end result of applying these principles consistently is value. Simplicity results in agility, and agility translates into value for HP customers, employees, and shareholders.

The CPDM team set out to succeed with its digital content management initiative by adhering to its Adaptive Enterprise design principles. Applications and systems would be as simple as possible to reduce complexity and manage risk. IT assets in the environment would be standardized with common components and processes. The technology to address specific business processes would be modularized to ensure performance. It would be easy to improve the product content value chain by integrating modularized capabilities.

### **The Need: More Efficient Multi-lingual Web Publishing**

Effective content globalization requires striking the right balance between providing a satisfying customer experience in local languages and maintaining and enhancing corporate branding. HP has years of experience performing this balancing act, which is challenge enough for companies with just a handful of international web sites. Given its presence in 178 countries worldwide, the scale of HP's globalization requirements is daunting.

At HP, three primary sets of activities support the mechanics of global publishing:

- **Regionalization** is the process of adapting content to a geographic region.
- **Translation** is the process of transforming content from one language to another.
- **Localization**, as defined earlier, is the process of modifying content to account for differences in distinct markets, with cultural sensitivities and legal requirements in mind.

An example illustrates how and where these processes fit together. HP needs to translate product content for a new all-in-one printer/scanner/fax device. One target language is French, for marketing in France and French-speaking Belgium. The HP business unit creates product content in English, which is the company's official business language. That content is then regionalized by HP's EMEA organization (Europe, Middle East, and Africa). The regionalized version is translated into French and, finally, localized separately for France and Belgium. In some cases, localization occurs before and/or after translation.

In 1998, the core problem was not the need to establish globalization and localization processes, but that the established processes were not optimized operationally. This was not a situation unique to HP. Content localization, in particular, is an area rife with opportunities to save time and money. LISA estimates that 48% of outsourced localization expenditures is translation.<sup>4</sup> In many organizations, translation is still driven by inefficient manual processes, whether performed in-house or outsourced. Lack of proper upfront planning for downstream translation and localization means that content globalization can end up taking twice as long and costing twice as much as what would have been spent *with* planning.<sup>5</sup> Low levels of reuse drive up costs associated with redundant translations. Extensive use of outside vendors delays time to

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<sup>4</sup> *Ibid.*, p 20. Other outsourced functions include activities such as software localization, authoring, QA, and project management.

<sup>5</sup> *Ibid.*, p. 5.



market and increases overhead costs. Inconsistencies in published information reduce customer satisfaction and increase the risk of diminished customer loyalty.

Six years ago, HP faced these very issues. At the same time, HP was starting to rely more heavily on its websites as its primary means of communication with customers and partners. As Translation and Localization (T&L) Manager Alison Toon notes, “In a global operating environment, the Internet has become a primary interface between customer and vendor. And the customer expects to see consistent and timely information regardless of how and where it is published, whether on a website or in a printed brochure or manual.” In 1998, Toon started a part-time assignment to address T&L issues under the umbrella of an HP services organization to which she belonged. Content globalization processes were highly decentralized; the business units and regional divisions worked on their own to translate and localize product content for their local target audiences. As a result:

- Translation was inefficient due to redundancies. Two factors were in play. First, some regional translation agencies were not using translation memory, starting from scratch each time a new translation cycle was required. Second, there was no leverage across the translation memories that did exist; they were isolated project silos.
- Lack of consolidated reporting tools meant that there was no visibility at the corporate level into spending and reuse. Even without metrics, HP knew that it was losing time and money.
- Corporate messaging and branding were inconsistent across regions, causing customer confusion.
- Coordinating product releases across regions was a major challenge because of the need to synchronize multiple websites in multiple languages.

The demand for and interest in a solution to these problems quickly turned Toon’s part-time assignment into full-time responsibility.

In 1999, the globalization of a customer support website called the Information Technology Resource Center (ITRC) presented an opportunity to begin exploring ways to address HP’s content globalization issues. The ITRC was managed centrally, including all the languages in which it was published. The release is simultaneous—all regions at once, rather than English first and others to follow. If one localized ITRC misses the deadline, they all miss the deadline.

HP began to experience problems after several releases of the Japan ITRC. The site content (including the user interface) was manually translated by an agency that did not use translation memory due to a perception that overhead outweighed benefits because the projects were small. Translations were therefore highly redundant, which not only cost HP time and money but also caused inefficiencies in the processes associated with reviewing and approving the work of the translators. The web developers were manually converting the files from one format to another in order to publish the website. As the amount of site content grew, it quickly became apparent that HP had to address the systemic problems with its content globalization process before it could effectively undertake the additional effort required to translate the ITRC into other languages.

HP initiated a search for globalization technology that would address these problems and deliver other business benefits, such as the ability to leverage already-translated content throughout the entire organization. Once a potential solution was identified, the T&L group contacted the Japan team which was, as Toon says, “desperate for a tool that would speed up the process and simplify translation review.” The Japan team signed up for a pilot project to use the new technology for the localization of its ITRC.

### **Criteria for success for content globalization management**

For the pilot project, there was one primary metric for success: the Japan ITRC site had to go live simultaneously with the other regional ITRCs participating in the release. If the Japan and T&L teams met this goal, other success criteria would come into play as they expanded beyond the pilot:

- Reduced quality assurance time by delivering to the reviewer content that had been more accurately and consistently translated.
- Resulted in higher-quality web content that reduced the number of interactions with human customer support resources.
- Lowered globalization costs by reducing redundant translations every time new content was added or existing content was modified.

In addition to criteria for the initial phases, the T&L group had designs on larger improvements that could be wrung from the application of globalization technology. HP knew that consolidating its content globalization efforts held great potential to reduce costs throughout the entire organization, to improve the quality of product content delivered to customers worldwide, to escalate revenues by maximizing lifetime potential of products, and to increase HP's intellectual property by retaining ownership of its translated product content.

HP was already working proactively to achieve some of these benefits before the pilot. As an example, an effort was underway to consolidate contracts with third-party translation suppliers. By having the regional publishers come through a central contract service, HP was able to take advantage of greater buying power.

With the ITRC pilot, the T&L group had an opportunity to achieve a relatively small win in a short period of time, learn from the experience, and grow from there, which is exactly what happened.

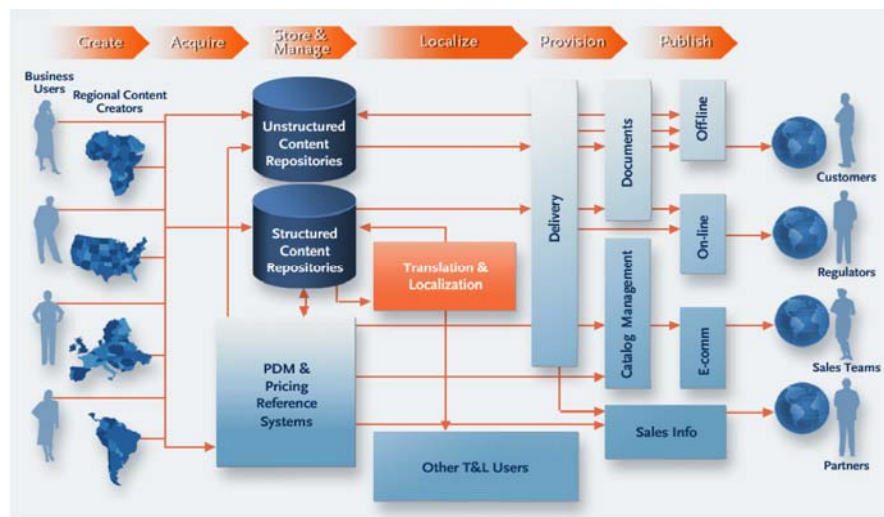
## The Solution: Global Content Management Infrastructure

Content management and globalization management are treated as business solutions at HP, not as technologies. As such, they go beyond IT and include processes and business rules that mirror the way people work. The content and product data management business processes that drive HP's solutions align with the company's product lifecycle, and they ensure consistency of content globalization throughout the enterprise. Figure 1 illustrates the process flow.



**Figure 1. HP's content management business processes**

Most of these processes are self-explanatory. "Provision content" is the process of making globalized content available to the destination publishers, both online and offline. The delivery mechanism is based on a syndication model. The regions subscribe to content via business rules held in what HP calls a "provisioner." When new content becomes available, it is pushed out to the subscribing site. The publishing team at the subscribing site assembles the appropriate content received via the provisioner ("construct documents" in the process flow) and finally publishes the content on the local HP site. These repeatable processes are continuously improved in the constant quest to provide content consumers with the right information, at the right time, in the right way. Figure 2 illustrates the CPDM architecture that integrates and enables HP's content management business processes.



**Figure 2. HP's digital content management infrastructure**

Product lifecycle/date management, marketing content management, and catalog management are incorporated into a unified infrastructure. Content creators in the regions and business units populate two repositories. One is a database system for structured data (e.g., SKU numbers, product specifications), and the other is an enterprise content management system for unstructured content such as finished marketing collaterals, individual media assets (e.g., product photos), and so on. Product data and content may also come from sources such as pricing databases and product data management systems. Content destined for localization and translation is run through the T&L workflow; completed translations are returned to the repositories. The provisioner assembles the globalized content and delivers it to the destination publishers. The architecture supports HP's custom product catalogs as well as sales and marketing content for regional websites.

Tying this infrastructure back to the Adaptive Enterprise design principles, the general approach is to develop individual assets (that are modularized) and integrate them to build a product content value chain. The infrastructure is relatively simple and is standards-based wherever possible.

The next section of the case study explains what happens inside of the T&L box in the architecture diagram.

## Solution Components: Content Localization and Translation

### Product selection

At any given time, HP has hundreds of localization projects going on around the world. These projects use multiple content management systems, databases, authoring systems, workflow solutions, file systems, external translators, and localization vendors. HP could not realistically change this entrenched infrastructure suddenly, nor could it realistically dictate what these highly distributed groups used in their local environments. The focus of the content globalization solution was therefore not on more content management systems but rather on language technology that could work with the installed content management systems and with the existing translation processes, such as preferred translators and reviewers, already in place in the regions.

The T&L group wanted to enable HP's business units and regional organizations to take advantage of enterprise technology and services without preventing them from using local services where appropriate. The team developed the concept of an enterprise translation architecture that centralizes content globalization efforts, establishes repeatable processes, and provides mechanisms for leveraging translation work that has already been done. The business objectives for the architecture translated into two key technical requirements:

- Workflow capabilities for automation and communication, and
- Support for centralized sharing of translation memories.

The T&L group conducted a formal investigation of the translation technology providers active in the market, but it did not go to the length of a formal RFP process. Because the problems that HP needed to solve were obvious to the team and to HP management and because of the lack of suitable technology in the marketplace at the time, the T&L group did not perform a formal cost justification or ROI analysis prior to selecting a vendor for the ITRC pilot.

HP chose TRADOS Global Enterprise Suite, an enterprise-class globalization management platform now marketed by TRADOS Incorporated.<sup>6</sup> The vendor met the technical requirements for workflow capabilities and support for centralized memory translation, and as an enterprise solution, it had the potential to scale well to support broad use within HP.

Another attractive feature was the vendor's business model, which offered the technology on a hosted basis. That was perceived as beneficial because as an internal service provider, the T&L organization did not have its own budget. Translation and localization expenses were borne by the business units.

The pilot project with the Japanese ITRC was essentially a pass/fail exercise. HP had planned an update of ITRC, simultaneously releasing all sites in all languages. At the time of the pilot, HP was localizing the ITRC in Japanese and two other languages. The T&L group decided to apply the technology to the Japan site while using existing processes to localize the others. HP relied solely on TRADOS Global Enterprise Suite for the Japan release; no parallel process was put in place. "We had to be successful," says Toon. "If we failed, all of the releases would have to be delayed."

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<sup>6</sup> At the time of its implementation at HP, this solution was a product of Uniscape called GXT. TRADOS acquired Uniscape in 2002 and has since evolved and renamed the product.

HP did in fact meet its simultaneous site release schedule. The Japan ITRC pilot was judged a success, and, as Toon says, “it just took off from there.”

As mentioned earlier in this case study, HP had other globalization initiatives underway at the same time as the pilot. Upon realizing the effectiveness of the technology, it was immediately obvious that benefits could be gained across the company. Regional publishers could continue to work with their preferred translation suppliers, while at the same time, use the visibility on translation volumes to better manage supplier relationships.

HP has twice re-evaluated TRADOS Global Enterprise Suite as its content globalization needs continued to evolve, before and after the HP/Compaq merger. Each time it passed muster as the solution of choice, even with new players in the market. Today, HP maintains 74 international customer-facing sites that are populated with marketing and technical materials targeting customers, OEMs, and retail distribution partners. Product marketing content on these sites is processed through the TRADOS technology and workflow.

### **T&L Components**

As stated earlier, HP treats its content globalization management capabilities as business solutions. It is useful, however, to take a closer look at the technology in order to understand where and how HP derives financial benefit from it.

From a technology perspective, TRADOS Global Enterprise Suite is a server application that connects project managers and translation suppliers in an end-to-end workflow solution. As a centralized application, it enables HP to:

- Provide all translation vendors with a consistent user interface.
- Maintain and make available databases of translated content that are specific to the business units and to individual products, yet globally available and leveraged throughout HP.
- Deliver efficiencies that decrease the workload of every user involved in content globalization projects, from program managers to outside suppliers.

Global Enterprise Suite components include:

- Integration with content management systems.
- Tools for translation project managers to create work packages for distribution to translation vendors (highly automated when the TRADOS Suite is integrated with content management systems).
- Translation memory for reuse of translated content.
- Workflow for automating file transfers and communication among the various participants in the content globalization process.
- Reporting tools for analyzing reuse rates and other key metrics.

A brief comment on translation memory: it is not automated language translation. Rather, it enables language reuse by human translators. LISA defines TM as follows:

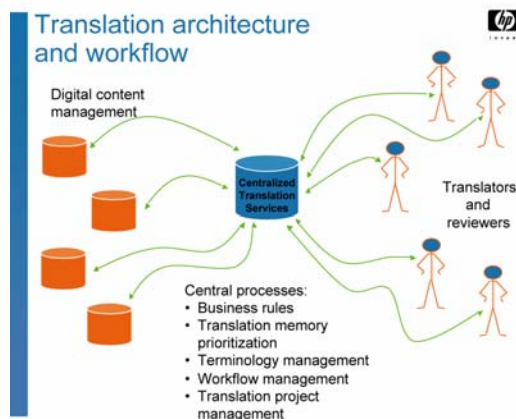
*"[TM is] a database of previous translations in which the source and target language texts have been broken down into segments that are aligned with each other. When a subsequent version of the same source text is compared with the original, the memory identifies the equivalent translated segments and inserts them into the new target text."*<sup>7</sup>

TMs are built over time, as new translations in new languages are performed and introduced into the database. After one year of deploying Global Enterprise Suite, HP had 2.85 million words in its memories. At the end of 2004, after five years of use, Toon estimates word count of approximately 30 million.

The reporting tools enable the T&L group to measure its progress towards improving reuse of translated content. Prior to deploying Global Enterprise Suite, the company was unable to measure reuse at all. "When we started the first project, we had no idea how much translated content was being reused because we never had tools to measure reuse," says Toon. "The old adage is true. If you can't measure it, you can't manage it."

### Translation Workflow

HP's translation workflow is illustrated in Figure 3.



**Figure 3. HP's translation workflow**

Packages of source files for translation and localization are assembled in one of two ways:

- Manually by a project manager using TRADOS assembly management tools.
- Automatically by using business rules that extract files from content management systems.

The content in the package is processed by the translation memory system, which matches the source text to previous translations. Unique 100% matches between the source text and previously translated content are ignored; only content which is less than a 100% match is made available for modification via the central server to a human translator. This allows HP to control costs by paying only for translated content it needs. The translator completes the translations

<sup>7</sup> *Ibid.*, p. 24.

and uploads the content into the translation memory. A QA team in the target market reviews the translated content for linguistic consistency, brand accuracy, legal compliance and cultural sensitivities. It approves the translations and returns them to the translation memory, associated with the English source. The approved translations are returned to their original file formats (e.g., Word, HTML, etc.) and to the HP project manager or content management system initiating the workflow. The final step in the content globalization process prior to delivery to the publishers is the assembly of the translated and localized sales and marketing materials.

### **Organizational changes and best practices**

#### *T&L Capabilities through the CDPM Organization*

An obvious organizational change since 1998 is the formation of a services group that is the center of content globalization operations and initiatives within HP. Today the T&L group delivers the following:

- Consulting, analysis, design and implementation of globalization business processes.
- Management of the enterprise translation architecture.
- Integration of the enterprise translation architecture with content management systems.
- Operational translation and localization with partners

#### *Introducing New Content into the Content Management Infrastructure*

As a best practice, HP is selective about the projects and programs that it brings into the digital content management architecture. Pat Tiernan is Director of Business Engagement and Solutions Development. His team works with the business units to perform a needs assessment, map needs to resources, and evaluate alignment with strategic goals for the architecture. The team also examines content use requirements by asking questions such as: How well is the content modeled? What level of granularity is best for reuse? What does the business unit know about its destination? How will globalizing this content positively impact user experience?

Another key consideration is the value that HP will realize as a result of any given initiative. “With just so many resources, we have to work with groups who can deliver the highest pay-back,” says Tiernan, “and we have to be able to flow the results of successful implementations back into HP’s value chain.”

One example of how this approach to prioritizing development has produced positive results is the “structured content factory” initially deployed in 2002 for the Imaging and Printing Group. Today, two and a half years later, the structured data repository is delivering significant business benefits in terms of dramatically reduced cost of new product introductions and improved customer satisfaction, thanks to a better customer experience. Savings come from consolidation of and standardization across systems. Other benefits have been realized since starting to drive business content for new product introductions: more new product introductions per year, additional product lines added, and a significant increase in the amount of rich product content that positively impacts the customer experience, all while reducing headcount.

#### *New HP Assets in Translated Content*

The localization industry is characterized by a tension between companies like HP who contract for translation services and providers of those services. Although the original content is the intellectual property of HP, traditionally the service provider maintained ownership of any translation memory generated during translation. This means that switching suppliers costs time and money because translation memories have to be built from the ground up again. In effect, the customer is tied to the supplier.



By providing all HP's product-generation and regional teams with a centralized enterprise translation architecture, HP is changing the *status quo*. HP now maintains ownership of its intellectual property in the form of translated product content. In addition, the company leverages the value of its new assets by making its memories available throughout the enterprise. "IP ownership and leverage of the assets were major objectives when we first started in 1998," says Toon. "What we've accomplished is a major win for HP."

### *Consistency in Customer Communication*

In spring 2003, HP launched "Operation One Voice," a marketing communications initiative that aligns HP behind one consistent brand. One Voice is ambitious in that it potentially touches thousands of employees and affects all layers of customer communication, from phone conversations and meetings to product collateral, web presence, and product design. Gary Elliott, vice president of Global Brand and Marketing Communications, described the goals of the initiative as follows:

- Support one common brand look and feel across all HP communications.
- Be consistent, clear, coherent and predictable in all communications.
- Develop common tools and processes.
- Ensure momentum and impact from brand advertising campaigns.

All content currently housed in and processed by the enterprise translation architecture supports Operation One Voice. To help program managers meet the goals of consistency, clarity, and predictability, the T&L group developed a translation style guide for translators. The guide plus translation consistency delivered by TRADOS Global Enterprise Suite enables product content to align with the One Voice program.

### **Timeline summary**

Our CTW case studies typically include a timeline of major milestones in the projects that we document. Because of the organic nature of the growth of content globalization and localization at HP, it is difficult to create a timeline that maps out a "start-to-finish" story. The T&L programs are growing by word-of-mouth and by CPDM's internal marketing efforts. Currently, approximately 10% of HP's product content is being managed within the enterprise translation architecture. "We will be growing for a long time," says Toon.

At the same time that content globalization efforts are expanding, the T&L group also realizes that it needs to position itself to respond to changing external requirements. The adaptive enterprise design principles to which the larger digital content management strategy and infrastructure adheres will help ensure its ability to do so.

## Results

### Content Globalization

Today HP's digital content management infrastructure serves the needs of approximately 13,000 sales and marketing users. There are more than one million content chunks and 1.8 million documents managed by applications within the architecture. HP has realized the following measurable benefits as a result of its content management initiatives:

- The structured content factory, in production for 18 months, has reduced the cost per new product introduction by 56%.
- The number of customer-specific product catalogs syndicated weekly has increased over 1000% in 18 months.
- The sales force is 10% to 15% more efficient due to simplified access to content.
- The cost of the content management infrastructure has been reduced by approximately 30% over the last 18 months due to consolidation and centralization.

### Content Localization

The T&L group supports more than 65 translation and localization programs and enables the company to translate more than 30 million words per year in 36 languages. Plans for 2005 are to continue growing the use of the system exponentially throughout HP.

HP has achieved additional measurable benefits at the level of T&L.

- The enterprise translation architecture has produced translation cost savings of greater than \$3.5 million annually.
- The reuse rate of the content currently managed within the enterprise translation architecture is estimated at 68% for 2004, up from 50% after the first year of using TRADOS Global Enterprise Suite. Toon's eye is always trained on the remaining translations that take place outside the architecture.

Besides managing translation costs, HP has realized savings not directly associated with actual word translation. These savings come from lower overhead costs for project management and review processes.

- Without Global Enterprise Suite, HP estimates that T&LS would need headcount of 28 people this year to handle the volume of content globalization work. Today the group comprises ten people, including Toon and nine program managers.
- Automated workflows have produced efficiency gains that also translate into cost savings. Program management handles 67% more work with fewer people, and the translation review process is now 50% more efficient than prior to deploying Global Enterprise Suite.

Because only about 10% of HP's product content is run through the enterprise translation architecture, additional savings in translation and overhead costs are in the pipeline as HP brings more and more content into the environment.

Significant revenue enhancement benefits can come from improved customer satisfaction (and subsequent long-term loyalty to HP), consistent communication and messaging (which increases brand value), and revenue uplift associated with getting products to market on time and therefore maximizing earning potential in increasingly short product life cycles. New revenues

can also come from entering new regional markets. HP is exploring ways to quantify these benefits.

Although HP does not currently have a mechanism for reliably tying revenue increases to its localization practices, ROI can be substantial, often as high as ten to one, according to LISA.

*“Reasonable projections show that the 20 largest companies in the IT sector alone leverage a localization investment of around USD 1.5 billion to generate sales of global products approximating USD 15 billion. When other vertical markets are included this number is doubtlessly higher. Companies in other areas are seeing similar return on investment as localization has allowed them to tap lucrative new markets.”<sup>8</sup>*

### **A Lesson Learned: Customer Focus**

“Provide our customers with the right information at the right time, and in the right way” is a mantra at HP. The CPDM organization puts addressing the customer experience front and center as it decides which content comes into the globalization architecture, which projects are prioritized, and which technologies can be applied to achieving the best results for end consumers of product content. By treating its technology assets as modules, HP can swap out capabilities as they evolve and as new solutions come into the marketplace. The results that the company has achieved to date with just 10% of its product content under CPDM control are certainly impressive—the upside over time, even more so.

### **A Lesson Learned: Scalability**

Scalability was a recurring theme across the interviews that we conducted for this case study. Although the centralized translation architecture was successful from the beginning, other content initiatives were characterized by trial and error. Before the merger with Compaq, HP shut down an 18-month, multi-million dollar project designed to manage structured product data in order to increase its usability. In hindsight, says Pat Tiernan, “We overextended ourselves on the number of publishers we brought on at once, and we went too granular with the data.” Ultimately, the initial implementation failed to scale beyond the first project execution.

Scalability is also at the top of Toon’s list of lessons learned. The huge volumes of content that need to be managed in HP’s structured and unstructured content repositories are likely to stress the limits of commercially-available systems. Toon advises content management adopters to be as specific and as granular as possible when describing scalability requirements to potential software suppliers. Every vendor claims that its solution scales. However, every solution has limitations, and it is important to understand where those limits are, how they impact the capabilities of the business, and what compromises are needed.

The one area where scalability has not been an issue is in enterprise translation architecture. Growing translation memory from 2.85 million words to over 30 million in five years and handling workflow and transactions for this amount of content illustrates that HP’s choice of technology has been able to support the demanding needs of a global enterprise.

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<sup>8</sup> Ibid., p 6.

## A Supplier's Voice: TRADOS Incorporated

For TRADOS, the challenges facing Hewlett-Packard were all too familiar.

- The need to speak with one global voice while retaining the ability to connect with regional audiences.
- Time-to-market for product content that is slowed by inefficient processes.
- Limited production capacity that was already too costly.
- Lack of centralized control and visibility that hinders management of the various moving parts of the globalization and content workflow chain dispersed around the world.

These challenges are typical of the multinational enterprises that TRADOS serves. Globalization is often viewed as an afterthought, resulting in the “bowl of spaghetti” of *ad hoc* and fragmented processes and supporting technologies. As a result, the complicated globalization workflow chain continues to hold numerous points for breakdowns, negatively affecting operational costs, time-to-market and quality of communications.

Today, many global companies achieve 40-60% of their revenues from international markets. In the process of delivering products to those markets, these organizations must adapt a great deal of product and marketing information to those specific markets. Content globalization is thus a critical process and a critical dimension of business success. For a large global company like HP, serving a billion customers in 178 countries worldwide demands the holistic, methodical and integrated approach to global content management that TRADOS delivers.

With TRADOS, globalization is transformed into a critical business process and competitive advantage, rather than treated as merely a last-mile hurdle. This is why the partnership between TRADOS and HP is so effective—the two companies share a common vision of the strategic importance of globalization management. The ability to optimize and manage such a complex process creates many tangible results, such as accelerated time-to-market for faster and greater revenue capture; increased customer loyalty through consistent, quality communications that resonate; brand protection and enhancement with consistent messaging, no matter what language; and lower operating costs and increased capacity through greater efficiencies.

### *About TRADOS Incorporated*

The worldwide leader in globalization software and services, TRADOS empowers multinational organizations to speed delivery and improve the quality of multilingual content to global markets. Through software that captures, stores, analyzes, standardizes, and reuses chunks of previously localized content, TRADOS has enabled 3,500 corporations—including Microsoft, IBM, Deutsche Bank, Wal-Mart, Sony, John Deere and others—to reduce costs and drive greater revenues with a more efficient, more accurate globalization process. Headquartered in Sunnyvale, California, TRADOS has offices worldwide. Please visit [www.trados.com](http://www.trados.com) for more information.

## Conclusions

When the Gilbane team evaluates a potential case study for our Content Technology Works initiative, we specifically look for elements of the deployment that are useful lessons for other adopters of content technologies. We think that following universal factors are key to the success that HP has achieved thus far.

***Content globalization is a business practice.*** It is highly strategic at HP, not treated as a tactical technology fix. By building in an enterprise integration architecture within the larger digital management infrastructure, HP has centralized and streamlined globalization processes that will keep pace with the growth of worldwide business.

***Adhering to a corporate-wide set of Adaptive Enterprise design principles ensures that the company has globally consistent business and IT processes.*** Given the scale of its business, consistency is critically important to the company's success. Processes and IT must be the same in every regional market in order for the company to operate effectively as a whole. Embracing change by expecting and preparing for it at the level of digital content management ensures extensibility and flexibility as customer needs for product content evolve.

***Consolidating processes and systems removes inefficiencies inherent in distributed globalization models.*** Cost, content quality, and value creation can all be impacted positively.

***Methodical evaluation of new projects helps manage prioritization.*** As a best practice, HP is selective about the projects and programs that it brings into the digital content management infrastructure. The evaluation process starts with the customer—how will globalizing this content improve the user experience? HP balances available resources, current capabilities, strategic goals for the architecture, and future value.

***Start small, win big, and grow from there.*** Companies that have content globalization needs on the scale of HP's can run the risk of starting with large projects that take a long time to deliver results.

## About Content Technology Works

Content Technology Works (CTW) is an industry initiative to develop and share content technology best practices and success stories. CTW is administered by *The Gilbane Report*, a trusted source of high-quality information on content technologies.

CTW case studies are written by Gilbane analysts. Vendors do not approve content; final editorial control rests solely in the hands of the adopter. As a result, CTW case studies are free of marketing messages and vendor bias. They cover strategies for securing funding, measuring actual value, driving adoption and other business and organizational issues as well as technology.

Typically, the kind of valuable information included in CTW case studies is only available for purchase. CTW content is different because CTW partners subsidize the program to ensure that this information is free. Partners want to push as many best practices to as many organizations as possible with the expected result being an overall acceleration of content technology adoption. For more information on the CTW program, visit [www.gilbane.com/technology\\_works.html](http://www.gilbane.com/technology_works.html).

Since the CTW program was first conceived in late 2003, we have sought out suppliers who are passionate about and committed to content technology as a game-changing force in the markets that they serve. Our CTW partners know that public, open and unfettered access to successful enterprise deployments, regardless of the technology mix, only benefit the commercial aspirations of organizations that offer material, dependable and predictable value. *The Gilbane Report* team wishes to thank these diverse and often competing organizations for their generous support and sponsorship of the development, promotion and distribution of CTW material. They are: [Software AG](#) (TECdax:SOW), [Sun Microsystems](#) (NASDAQ:SUNW), [Artesia Technologies](#), [Atomz](#), [Astoria Software](#), [ClearStory Systems](#) (OTCBB:INSS), [Context Media](#), [Convera](#) (NASDAQ:CNVR), [IBM](#) (NYSE:IBM), [Open Text Corporation](#) (NASDAQ:OTEX), [Trados](#), [Vasont Systems](#), and [Vignette](#) (NASDAQ:VIGN).

