

Enabling Business Growth and Productivity with Online Solutions

Each solution integrates multiple information sources to deliver information customized to meet users' needs, helping them make better decisions.

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Executive Overview

Working in close partnership with business stakeholders, Intel IT created several innovative online solutions that are helping to facilitate business growth and forge closer links with customers, business partners, and employees while increasing productivity and efficiency.

Each of these online solutions uses Web-based technology to intelligently deliver custom information to meet the needs of specific users, helping them to make better decisions and creating efficiencies for our business.

- **Customers.** Award-winning Intel consumer Web site provides customers with an interactive, personalized way to learn about and share their experiences with Intel® products.
- **Partners.** Business-to-business portal makes it easier for business partners to work with Intel by providing faster, customized access to all the online business applications they need.

- **Employees.** Sales force portal saves sales people two hours per week on average, while business dashboards simplify executive decision making.

These new IT business information solutions have been rapidly adopted by both external and internal users, and are delivering benefits to Intel's business.

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IT@Intel is a resource that enables IT professionals, managers, and executives to engage with peers in the Intel IT organization—and with thousands of other industry IT leaders—so you can gain insights into the tools, methods, strategies, and best practices that are proving most successful in addressing today’s tough IT challenges. Visit us today at www.intel.com/IT or contact your local Intel representative if you’d like to learn more.

BACKGROUND: THE VALUE OF BUSINESS INFORMATION

One of our core roles as an IT organization is to deliver timely and accurate information to business decision-makers. To maximize the value of the information to the people who consume it, we need to deliver this information as business intelligence (BI)—information that is customized to meet users’ needs and help them make decisions.

The volume and flow of business information continue to increase rapidly. Currently, Intel IT manages and stores 18 petabytes (PB) of data, and data storage requirements are growing at a rate of 35 percent per year. As a result, dealing with information overload is one of Intel’s greatest challenges.

At the same time, rapidly changing business requirements make it imperative that users are able to quickly access, analyze, and make decisions based on this information. These requirements mandate increasing collaboration and interaction between Intel’s business units, streamlining and improving interaction with customers and partners, and enabling Intel’s employees to become more productive and efficient.

To meet these needs, we developed several online solutions for different user audiences both within and outside Intel. In each case, we partnered with Intel business groups to define the solution and developed systems that enabled business process change. The solutions are used across all aspects of Intel’s business—by consumers, by Intel’s business partners, and by Intel executives and professionals in Intel’s Sales and Marketing Group (SMG).

Each solution combines information from multiple sources and delivers it to users

in ways that facilitate decision making by enabling them to rapidly access, assimilate, and use the information.

In each case, innovation and IT infrastructure investment were required to create solutions that can help drive business growth as well as increased efficiency and productivity.

CUSTOMERS: GROWING INTEL’S BUSINESS ONLINE

Consumers and business professionals are increasingly researching and buying products online, while sharing information about these products through social media. Intel is constantly seeking compelling ways to communicate with these customers, especially with the recent introduction of the Intel® Atom™ processor, which will be used in a wider range of consumer devices. To better serve a changing customer base, Intel needed to transform its online presence.

Business Challenge

Intel’s existing consumer Web site was limited in several ways. For example, it used static pages and lacked support for social media capabilities such as support forums, blogs, and communities.

Intel SMG goals required the creation of new Web experiences, including interactive content, to better engage consumers. This required Web 2.0 capabilities as well as infrastructure upgrades.

In 2007, Intel IT and SMG initiated a joint project to define the business requirements and IT capabilities needed. The goal was to transform Intel’s online presence to facilitate Intel’s growth while cost-effectively supporting customers online. Once business requirements were defined, Intel IT was



Figure 1. Intel's consumer Web site includes interactive and social media capabilities.

charged with developing the Web site. Delivering the new Web site capabilities required investment in new hardware, software, and social media solutions.

Solution

We delivered a new consumer-facing Web site <www.intel.com/consumer> that transformed Intel's online presence with dynamic, interactive content including social media capabilities, as shown in Figure 1.

The solution supports dynamic content delivery, enabling us to provide a variety of user experiences using a common infrastructure. We implemented a new portal as well as content management and metadata management systems. We reduced production and operational costs by centralizing and reusing content and presentation templates. We further increased efficiency by using standardized metadata, which allows us to more easily reuse content.

We implemented these content management and delivery capabilities within Intel IT, deploying

them on new Intel® Xeon® processor 5000 sequence-based servers. This also enabled us to consolidate and eliminate legacy systems.

For some other capabilities, we used cloud-based solutions to speed deployment and reduce cost. For example, we used cloud providers for the rapidly evolving area of social media; this helped us make social media capabilities available within just a few months. We also used a cloud-based

translation management system to simplify and reduce the cost of translating content into more than 20 languages.

Results

The new consumer site went online in early 2008 and achieved industry recognition by winning a 2009 Interactive Media Award (see sidebar "Intel Consumer Web Site Wins Industry Award"). Users have rapidly adopted

Intel Consumer Web Site Wins Industry Award

The new Intel consumer Web site achieved industry recognition, winning Best in Class in the consumer goods category of the 2009 Interactive Media Awards (IMA). This is an international competition designed to recognize excellence in Web site design, innovation, and development.

Judging is based on five criteria: design, content, feature functionality, usability, and standards compliance. The Best in Class award is the highest honor bestowed by the Interactive Media Council (IMC), the IMA governing body.

According to the IMC, a site that wins Best in Class has excelled in all areas of the judging criteria; demonstrated the highest standards of professionalism, standards compliance, and impeccable planning and execution; and achieved a perfect or near-perfect score (scoring at least 480 out of a possible 500 points).

new capabilities such as blogs, communities, and forums. They can interact with Intel and with each other, providing feedback, rating existing content, and posting their own, including videos. These capabilities further enhance the user experience, encouraging collaboration and information sharing.

The capabilities we have implemented are also helping Intel bring new product information to more regions of the world sooner. For the introduction of Intel® Core™ processor family in early 2010, our new online solutions infrastructure and cloud-based translation management enabled us to quickly support a much wider range of languages than previously feasible.

Following the success of the consumer Web site, Intel IT has applied similar approaches and key learnings to deliver additional online business solutions, such as the IT Center <www.intel.com/itcenter>, a new Web site for IT decision makers. Other examples include:

- The new Intel Download Center <<http://downloadcenter.intel.com>> enables customers and developers find drivers, BIOS, utilities, firmware, patches, updates, plug-ins, and other support software. We implemented advanced search technologies that can index structured and unstructured content, making information easier to find. In the future, we are looking to include audio and video speech-to-text conversions.
- The new Intel support Web site <www.intel.com/support> implements dynamic content delivery. About 1,100 product pages can be dynamically assembled on demand, with a consistent look and feel, using only two templates. This represents a significant gain in productivity, made possible because we invested in standard content metadata

and taxonomy rather than building individual static Web pages.

- In partnership with Intel's corporate marketing group, we used advanced content management within the Intel Sponsors of Tomorrow™ brand campaign to enable simultaneous worldwide campaign launch, reducing cost and effort through reuse of about 90 percent of the digital campaign assets.
- In collaboration with Intel Software and Services Group (SSG), we developed and deployed the AppUp™ Center <www.intel.com/AppUp>, focused on Intel Atom processor-based products. This Web site provides a place for developers to post netbook applications and for users to access them.

PARTNERS: INTEGRATED BUSINESS-TO-BUSINESS PORTAL

Intel's more than 30,000 OEM customers and distributors play essential roles in Intel's success. Our ability to satisfy the needs of our business partners, by making it easy and efficient to work with Intel, is extremely important.

To facilitate streamlined information flow and faster resolution of customer concerns, we developed a new business-to-business portal that provides partners with consistent, simplified, and secure access to the information they need to conduct business with Intel. We made a strategic decision to standardize our business-to-business portal on technology from our enterprise resource planning (ERP) supplier, scaling the use of this technology to support both internal and external information sharing applications.

Business Challenge

Intel provides capabilities that enable business partners to perform a wide range of activities, such as ordering processors and accessing secure design information.

During interviews with these companies in 2007 and 2008, we identified several key concerns. To do business with Intel, business partners needed to use legacy capabilities that had grown organically over the years; these were hard to use and did not offer a consistent experience across applications.

In 2008 and 2009, Intel IT worked with Intel's Sales and Marketing organization and with business partners to develop new capabilities that provide partners with simple, consistent access to all the applications and information they need. Our goal was to achieve a successful deployment by balancing the needs for performance, security, and a good user experience.

Solution

Our solution was the Intel Business Portal, shown in Figure 2, a single, secure Web site providing access to information and applications for Intel's business partners.

We built the solution using portal technology from our ERP software provider to provide secure access to business-critical applications. This approach also enabled us to take advantage of existing investment in our ERP platform.

KEY FEATURES

The portal currently provides access to 14 business applications including Web order management, secure design content, and partner marketing content. It provides secure single sign-on across all applications. Multiple identity and access management systems were integrated to help ensure a seamless user experience.

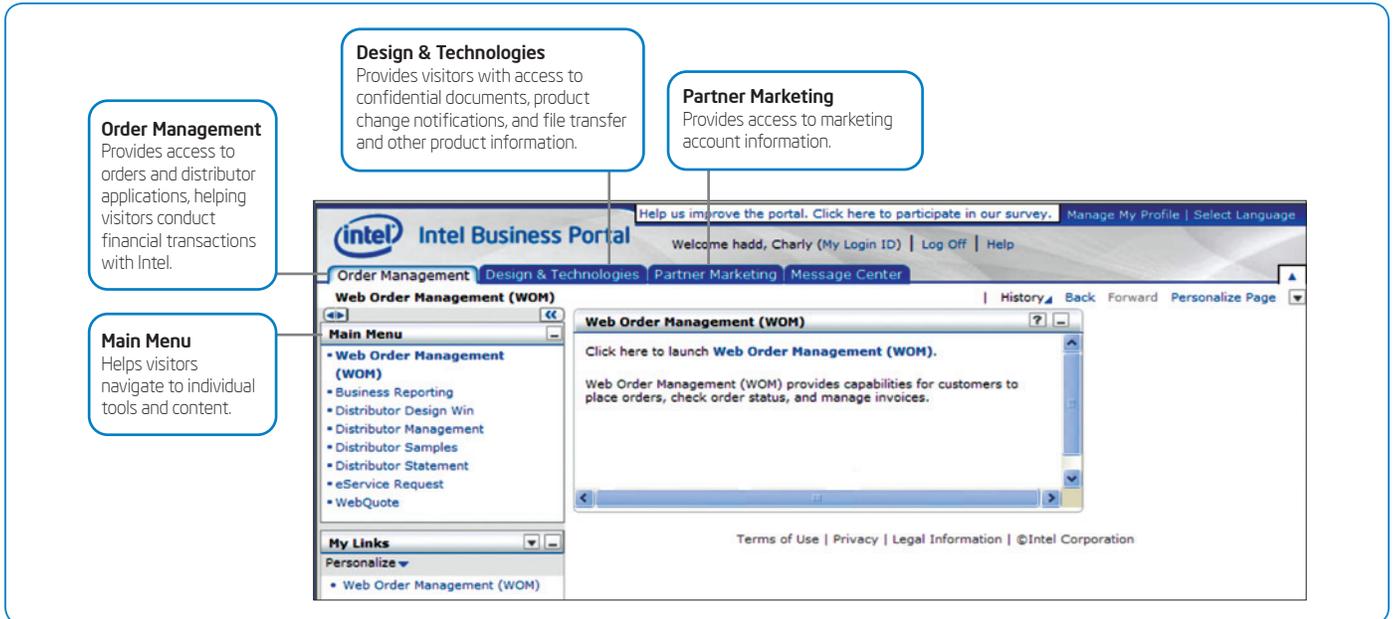


Figure 2. Intel Business Portal provides access to information and applications for Intel’s business partners.

The portal provides streamlined, customizable information access based on the user’s role. Different categories of users are presented only with the applications and information relevant to their job role. For example, buyers can view pricing and place and track orders. In addition, users can personalize their experience by setting preferences, including which language they want to use. We also added new application capabilities. For example, design engineers can more quickly search and receive notification of relevant information.

The solution also provides a foundation for rapid integration and scaling of future capabilities and content, all integrated into the portal with consistent access. Because the portal is based on technology from our ERP supplier, other ERP applications can be quickly made accessible from the portal, so the solution can be applied to other supply-chain uses in the future. New user roles can also be added as needed.

Performance is optimized for users worldwide by leveraging a content delivery network and deploying the portal on Intel Xeon processor

5500 series-based servers. This upgrade increased overall capacity four-fold, compared with the previous system, and improved transaction response time by 50 percent. The transition to the new servers was completed with zero downtime through a newly engineered IT process.

Results

The portal was launched in late 2009, and within five weeks, 10,000 business partners had begun using the system with no major incidents reported. Business partners, as well as Intel employees using the system, have responded very positively to the new portal (see sidebar “Business-to-Business Portal Testimonials”). We anticipate that the faster access will help improve users’ productivity.

We also expect savings of approximately USD 700,000 due to the removal of the older servers used to run the previous solution, and further savings are expected due to the reuse of core solution capabilities across the shared portal environment.

Business-to-Business Portal Testimonials

I like not having a long list—the aggregation on tabs is great.
 —Electronics Manufacturing Services Company

Just logged onto the new business-to-business portal and found it remarkably easy to find what I want.
 —Intel Field Sales Engineer

Much easier to navigate, I like the way customers can personalize their pages. It will make my life much easier.
 —Intel Field Application Engineer

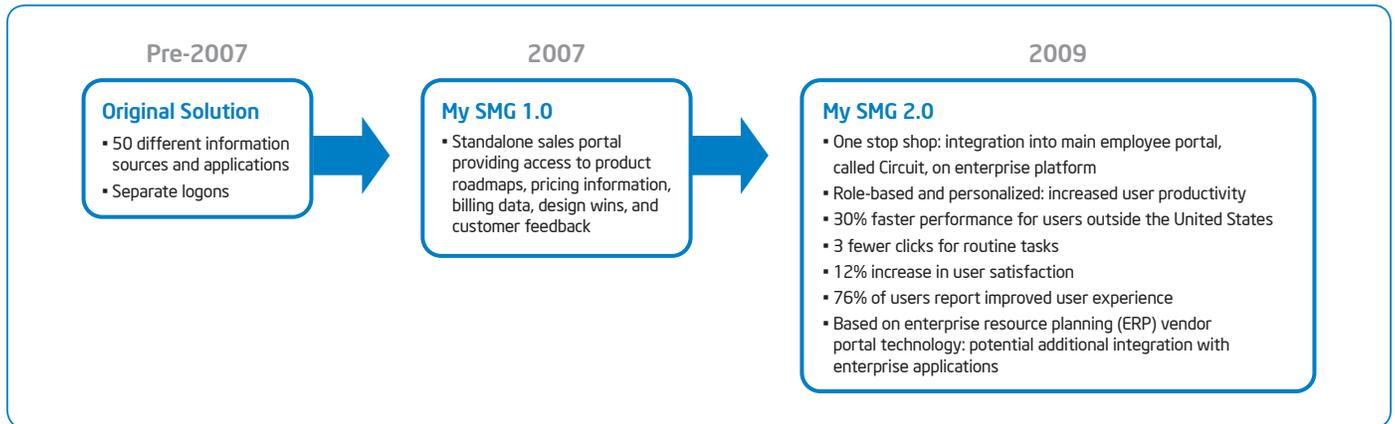


Figure 3. My SMG evolved from a standalone solution into an integrated portal for sales and employee information.

EMPLOYEES: BUSINESS INTELLIGENCE SOLUTIONS

Every day, Intel employees make decisions that impact Intel's revenue and profitability. We are developing BI tools that help them sift through ever-increasing volumes of information to make better-informed decisions. To assist our sales force and management team, we developed a consolidated sales information portal and several dashboards. Each of these provides information combined from multiple sources and customizes delivery to the needs of different employees.

Business Challenge

The flow of information has become faster and more pervasive, and dealing with information overload is one of our greatest challenges. Today, we amass more structured and unstructured data than we have in previous years. The Internet, wireless voice and data, and growing global markets have contributed to a 24/7 working environment. Our data warehouse currently stores 18 PB of data and is growing 35 percent year over year. In this climate, time for analysis, action, and reaction is shrinking,

while work has become increasingly interactive and collaborative, requiring more information sharing. This means that integrating information across strategic and operational perspectives, and across different functional areas, is essential to enable informed decision making.

The increased information flow means that employees need better tools to help them more quickly find and analyze the specific information they need. For example, our sales people need access to a wide variety of sales, product, and other information; previously, gathering this information was time consuming because they needed to access many separate applications and information sources. The more time sales people spent obtaining this information, the less time they were able to spend with customers. To speed information access, employees wanted a single location that delivered all data and applications.

In addition, it was not easy for different employees, from sales people to executives, to quickly obtain information about business performance compared with key indicators; this could require time-consuming manual information gathering from multiple sources.

Solution

In collaboration with SMG, Intel IT developed My SMG, an internal line-of-business portal that streamlines information access by consolidating over 50 line-of-business tools and content for SMG employees. We also developed dashboards for executives and sales people to provide them with up-to-date information and the ability to analyze the data to make decisions.

MY SMG

The My SMG portal was initially launched in 2007 as a standalone solution, consolidating all available SMG tools, content repositories, and resources—including more than 50 Web sites and newsletters. Other efficiencies included single sign-on across critical applications and a search capability that scanned all of Intel's secured internal content. We added capabilities such as RSS to enable content subscriptions and alerts throughout 2008.

In 2009, we integrated My SMG into Intel's employee portal, which is based on technology from our ERP supplier. The portal is one of the largest implementations based on this technology, supporting more than 80,000 users. Figure 3 details how the solution evolved.

The integration provided sales people with a single portal and a common user experience for all corporate, line-of-business, career, and benefit-related information. My SMG now automatically recognizes users' job roles and presents them with the tools and information they need. Users can then personalize the interface by simply dragging and dropping the elements they want to use. Another new feature automatically aggregates all content related to a specific topic into a single view—including sales, marketing, and technical product information. Users can also access social media content on the employee portal, such as blogs and wikis.

INFORMATION DASHBOARDS AND DATA ANALYSIS TOOLS

While the My SMG portal helped employees find information more quickly, we also developed BI tools that help employees analyze information to make better business decisions (see the sidebar "Employee Testimonials").

To do this, Intel IT partnered with various Intel business groups to develop a framework and vision for how to integrate information and technology to improve decision making. On the business side, the framework entailed developing a common set of business methods for defining strategy, plans, and initiatives. On the technology side, it required a common method to identify the right data, connect to data sources, and develop the semantic layer and capabilities to author, consume, and analyze performance-related information. This common framework provided the capabilities to simplify collaboration and align processes among business units.

We developed several tools based on this framework. These included dashboards to enable Intel's marketing team to measure and monitor the performance of Intel's marketing strategies. This provided the team with the ability to adjust programs more quickly to align

Employee Testimonials

The new My SMG information portal solution is fast and user friendly. Everything I need to do my job is on one page, which is cool.

—Mediha Kayacan, Intel Field Sales Manager

As a field person for 27 years, I understand the complications and frustrations the field goes through to obtain clear numbers on their business. Our new business intelligence solution has enabled our sales team to have unprecedented on-demand access to integrated information to measure and track their business, driving business results.

—Gregory Pearson, Intel VP and General Manager, Worldwide Sales and Operations

"Know Your Numbers" integrates targets and gives me market data, sales, and design win information by region. As a manager, this enables me to have a holistic view of my region, and I can look at where we need to adjust plans closer to real-time.

—Karen Lomas, EMEA Embedded Sales Group Development Account Director

with corporate strategies. We also deployed a platform that provided the sales team with dashboards, called "Know Your Numbers," that deliver integrated business metrics to sales executives, as well as operational information to managers and sales professionals. This provides them with immediate visibility into business performance against goals and with self-service capabilities to analyze business and market data to make timely and well-informed decisions.

Results

Surveys have shown that the integrated portal My SMG can save Intel's field sales representatives an average of two hours per week and that 72 percent of field users use the portal as a single source for tools and information.

The sales and marketing dashboards have been widely adopted, enabling field sales and operations people to save an additional two hours per week on average by instantly obtaining information rather than manually extracting and integrating it from multiple systems.

FUTURE CAPABILITIES

Our experiences and learnings in developing these business information solutions have provided us a clearer vision that we can apply to future Intel IT initiatives.

In the area of BI, Intel IT has established an enterprise-wide program with two key elements. To help ensure we effectively take advantage of our enterprise data as an asset, we are establishing a solid, reliable, and secure enterprise data foundation. This will provide a single trusted source of data and definitions for more than 50 critical business data types including inventory, revenue, product cost, and supply chain costs. This will eliminate inconsistencies caused by multiple data sources and a variety of business definitions.

The second element of our BI program is to deliver a set of cross-enterprise business-performance management solutions, built on top of the enterprise data foundation, that align with key business strategies, provide well-defined business-performance metrics, and provide a set of BI tools to measure ongoing performance against those metrics.

Table 1. Summary of Online Business Solutions

Audience	Goal	Solution	Results
Customers	<ul style="list-style-type: none"> Reach a changing customer base Facilitate sales growth 	<ul style="list-style-type: none"> New Intel consumer Web site and other Web sites using Web 2.0 capabilities 	<ul style="list-style-type: none"> Dynamic content delivery Highly interactive Web sites with social media capabilities
Business Partners	<ul style="list-style-type: none"> Make it easier for partners to access all the capabilities they need 	<ul style="list-style-type: none"> New business-to-business portal providing access to applications and data 	<ul style="list-style-type: none"> Streamlined, customized access to information Cost savings Platform for faster integration of future capabilities
Employees	<ul style="list-style-type: none"> Streamline information search for sales employees Provide improved capabilities to assist executive decision making 	<ul style="list-style-type: none"> Sales portal consolidating 50 information sources Executive dashboards providing up-to-date business views 	<ul style="list-style-type: none"> Faster, simpler information access for sales people, saving an average 2 hours per week Dashboards for instant access to information

CONCLUSION

Working in close partnership with internal business stakeholders, Intel IT created several innovative online solutions that are helping to facilitate business growth and forge closer links with customers, business partners, and employees, while increasing productivity and efficiency.

Each of these solutions, summarized in Table 1, provides more intuitive access to

multiple applications and content integrated from a variety of sources. Each was developed as a unique solution in order to meet the needs of the specific audience.

These solutions are delivering benefits by enabling business growth and by helping to make Intel more efficient. Creating and delivering BI is a key aspect of our strategy to deliver IT solutions that enable a competitive advantage for Intel.

ACRONYMS

BI	business intelligence
ERP	enterprise resource planning
IMA	Interactive Media Awards
IMC	Interactive Media Council
SMG	Intel Sales and Marketing Group
SSG	Intel Software and Solutions Group
PB	petabyte

For more straight talk on current topics from Intel's IT leaders, visit www.intel.com/it.

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