



IT@Intel

# Information Technology 2008 Performance Report

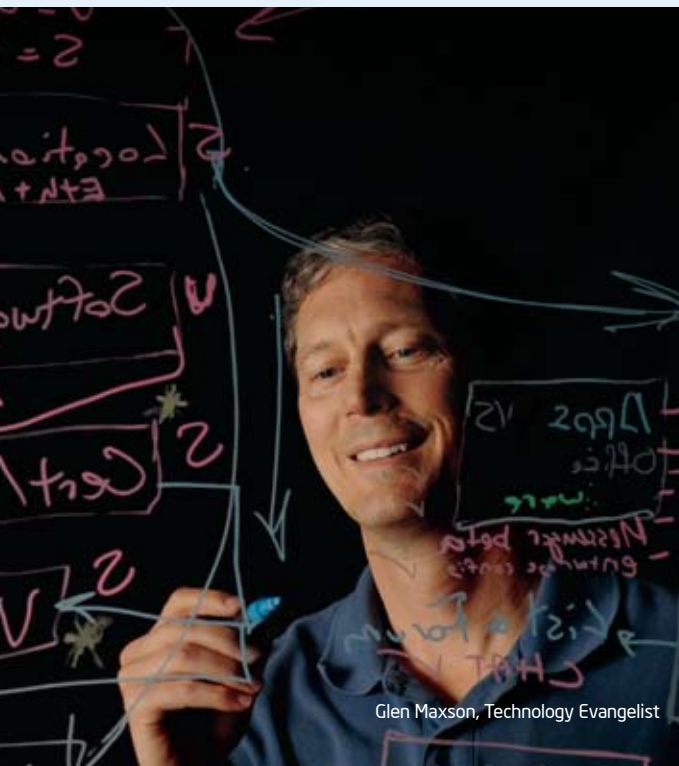
Enabling Growth and Business Transformation

Delivering the “I” in I + T  
throughout the Supply Chain

Delivering competitive I + T means enabling growth and business transformation by providing better information and technology for improved decision making, efficacy, and efficiency. Recognizing that we need to deliver consistent, high-quality supply chain information to internal business users that is both understandable and trustworthy, we created an integrated data design for supply and demand areas. The design’s foundation uses our master data standards that define how products and bills of materials should be created and maintained. We converted all of Intel’s products to these standards and re-engineered critical data sources to conform.

We began to see the benefits of this program in late 2008. As the processes and applications migrated to the new trusted data source, we no longer needed to collect and cleanse the data specifically for supply chain business processes and applications, saving time. Increased confidence in the data will reduce our cost of ownership, improve productivity, and return more accurate results from our tools.

In 2008, production scheduling tools were first to use this data, resulting in decreased headcount to maintain and support the tools and more accurate output due to the improved data quality. Moving into 2009, the program will continue to provide trusted information to our internal business users for dashboards, reports, and data mining, as well as to all of our planning tools.



Glen Maxson, Technology Evangelist

Cover: Lynette Mailman, Internal Communications Specialist

Note: Some 2008 data estimated at time of publishing.

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## Intel IT's Journey of Transformation

Welcome to our eighth edition of the Intel IT Performance Report. In this publication, you will see examples of our progress towards our mission to deliver competitive I + T—information that enables rapid decision making and technology that creates a competitive advantage for Intel.

This past year, we had a strong focus on organizational health improvements including enhancing our training and leadership development programs. The talent of our employees is critical for providing high-quality IT products and services. We also streamlined our project management process to ensure effective use of our valuable human resources and to enable faster and more predictable development cycles in response to the growing demands on IT. This required the disciplined application of project management standards and refinement of our IT governance.

In 2008, we continued to invest in projects to reduce the cost of our overall operations. We have made great progress in carrying out our data center strategy by reducing our data center footprint, implementing advanced power and cooling solutions, optimizing the WAN, increasing server utilization, and aggressively accelerating our server refresh rate to optimize total cost of ownership (TCO). To date, we have saved more than USD 95 million through our data center efforts.

Through the adoption and deployment of Intel® vPro™ technology, we have also improved client manageability. We have provisioned over 31,000 clients to date and are seeing reduced support costs through remote diagnosis and repair capabilities.

IT solutions that help drive business growth are critical for Intel. We made great progress in our supply-chain management solutions, enabling Intel to be more responsive to customers and resulting in better inventory management and overall cost savings. We also delivered on our online marketing vision by improving our customer experience through the design, delivery, and management of new infrastructure required for Web 2.0. And this year, we passed the halfway point in the complete upgrade of our enterprise resource planning (ERP) system, landing an additional 23 individual programs. This conversion will create the agile and scalable solution we need in support of Intel's growth.

As an IT group within a technology company, we have partnered with Intel business groups in defining, developing, and enabling technology and products that address the needs of enterprise IT organizations. In this edition of our performance report, you will see evidence of that close partnership and the value of Intel® architecture to an enterprise IT group.

It has been an exciting year for Intel IT. We have made significant progress and look forward to 2009 as we further deliver towards our strategies and objectives.



**John "JJ" Johnson**  
Intel Vice President  
co-Chief Information Officer



**Diane Bryant**  
Intel Vice President  
co-Chief Information Officer



Tawnya Tolsch, IT Flex Services Manager, and  
Charles Pettitt, Business Development Manager

### Our Vision

Our people and solutions enable Intel's growth and business transformation

### Our Mission

Deliver competitive I + T

## 2008 Strategic Objectives

### One

Build an engaged and energized IT team

### Two

Deliver competitive IT operational services that power Intel's business

### Three

Deliver information and technology solutions that create top- and bottom-line improvements for Intel



# 2008

## A Look Inside Intel IT

Intel IT delivers outstanding operational services and is a key partner in enabling Intel's business.

— Paul Otellini  
Intel President and Chief Executive Officer



Darrin Chavez, Administrative Support

### Our IT Operations



• Data Centers

# 430,000

Data Center Square Feet

# USD 45M

Savings from Server Refresh

# USD 1.78M

Savings from Server Virtualization  
(Up 593% from 2007)

Intel IT employees: 5,700

IT sites: 66 in 28 countries

IT data centers: 75

- Global: 5
- Regional: 14
- Local: 56

Who do we support?

Employees: 83,500

- Americas region: 48,000
- Europe region: 23,600
- Asia region: 11,900

Sites: 150

- Americas region: 44
- Europe region: 52
- Asia region: 54

Countries and regions: 61

### Operational Efficiency

Infrastructure Services	2007	2008	Efficiency Gain
IT data centers	96	75	18%
Data center kilowatt usage per day	36,686	34,689	5%

Service Desk (Employee Technical Support)			
Cost per incident	USD 20.23	USD 17.09	16%
Resolution rate	95%	95%	

Note: Some 2008 data estimated at time of publishing.

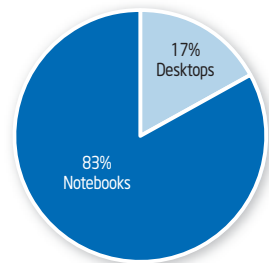


## Information and Data Traffic

Data and Messaging Traffic	2007	2008	Percent Change
WAN traffic <i>Terabytes per month</i>	1,587	2,183	27%
Backup volume <i>Terabytes per month</i>	3,232	4,784	32%
Audio conferencing <i>Millions of minutes per month</i>	34.5	34.0	-1%
LAN ports	381,499	464,124	22%
Enterprise application storage <i>Terabytes</i>	4,600	6,000	23%
E-mail messages <i>Millions per month</i>	143	148	3%
External e-mail messages blocked <i>Millions per month</i>	–	650	–

Refreshes and Upgrades			
PCs refreshed	6,934	14,831	53%
PCs with Intel® vPro™ technology provisioned with Intel® Active Management Technology	–	31,500	–

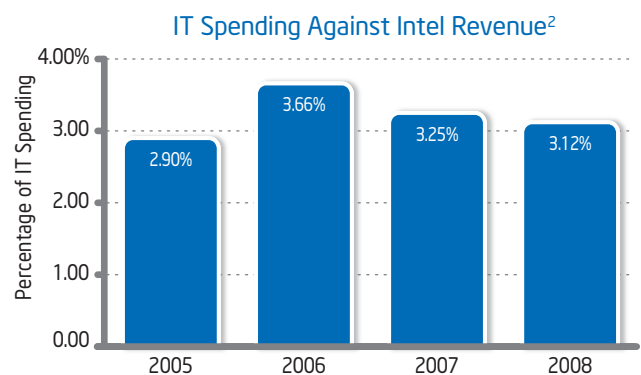
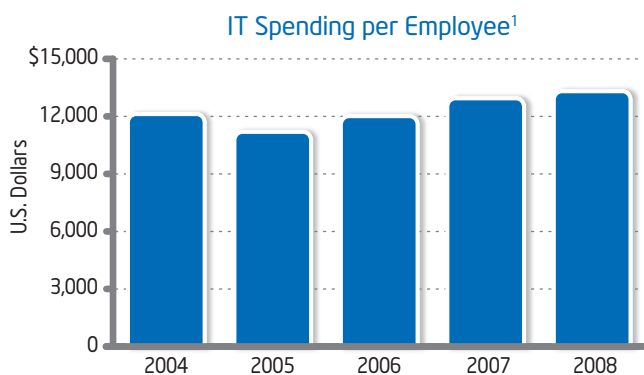
## Notebook to Desktop Ratio



## Self-Help/Online Support to Phone Support Ratio



## How Much Does Intel Pay for IT Service and Support?



<sup>1</sup> 2007, 2008 IT spending does not include stock-based compensation or IT spending by non-IT business groups.

<sup>2</sup> 2006, 2007, 2008 IT spending includes IT spending by non-IT groups, but does not include stock-based compensation expense.



Phil Tierney, Enterprise Architect; Debbie Doran, Americas Geo Manager; and Jim Ferguson, Client Platforms Engineer

## 2008 STRATEGIC OBJECTIVE ONE

# Energizing the Team

Our people are fundamental to enabling Intel's growth and business transformation, and we rely on the talent and skills of our IT employees to support a global workforce of more than 83,000 people. In 2008, Intel IT continued to focus on employees to revitalize our organization. To build an engaged and energized IT team that can deliver competitive I + T to Intel, we invested in leadership training and skills enhancement, further streamlined project delivery through workflow excellence and Lean Six Sigma\* programs, and improved decision making.

### Training

The talent of our employees is a cornerstone in providing high-quality IT products and services that support Intel's business goals. Intel IT strives to make our organization a great place for our employees to work, contribute, and learn. We accomplish this by focusing on enriching careers, enhancing people-management and leadership skills, and developing an engaging global work environment.

Enriching employee careers through development and training is helping IT become a competitive capability for Intel. Our global career development program provides the commitment and processes for skills training and career development to more than 5,700 IT employees worldwide.

In 2008, to reinforce the importance of training, we increased the training budget by USD 3 million, resulting in an 18 percent increase in spending on training per employee compared to 2007. We funded 500 requests for training, certifications, and conferences

that affect more than 2,000 Intel IT employees. By the end of September, more than 85 percent of Intel IT employees had taken at least one class or attended a conference—in addition to required Intel training—to increase their skills and support their career-development goals.

### Leadership Development

By developing people-management and leadership capabilities, we also aim to build a work environment that engages our employees above and beyond the norm. As part of our leadership development, we hosted a highly energetic IT Leadership Summit as well as the 2008 IT Technical Leadership Conference.

More than 230 Intel IT leaders and managers attended the IT Leadership Summit. According to a post-summit survey, nearly 100 percent of attendees said they took away an understanding of Intel IT's strategic direction and could communicate that strategic direction to their colleagues to better support Intel IT corporate-wide.

# one PEOPLE

Build an engaged and energized IT team

## 76.33%

Employee Satisfaction Score from  
Organizational Health Survey  
(13% Improvement over 2007)

## 92%

Projects Meeting  
Committed Releases

## 112,925

Intel IT Volunteer Hours

Our annual 2008 IT Technical Leadership Conference focused on catalyzing IT technical excellence. It brought together 160 Intel IT technical leaders from across the organization and geographies for three days to collaborate, share technical innovation and expertise, and facilitate the ongoing development of our technical contributors. The conference featured 51 technical papers written and presented by Intel IT employees. Paper topics included encryption, distributed networks, and cloud computing.

The conferences led to renewed energy among participants and deeper integration between Intel IT projects, which will result in faster, more innovative solutions to support Intel business objectives.

## Organizational Health

Our annual Organizational Health Survey results give our IT leaders insight into our employees' key interests and opinions about strategic clarity, work environment, teamwork,

management and leadership, and overall morale. At the close of 2007, the survey reflected the challenges and concerns that come with times of change.

We built upon our strengths as an organization and tackled top challenges:

- Communicating a clear and compelling vision, mission, and strategy for the organization.
- Building trust by demonstrating leadership that is able, believable, connected, and dependable.
- Developing skills and initiating conversations about career growth.
- Engaging employees by providing quality managers and challenging work.
- Using data-driven methods to more effectively scale projects to resources.

Our focus resulted in an organizational health score of 76.33 percent in 2008, a 13 percent improvement from 2007, with 70 percent of our employees responding to the survey.



William Wrenn, Principal Engineer; Glen Maxson, Technology Evangelist; and David Buchholz, IT Technology Evangelist

## IT Flex Services Wins the Intel Quality Award

Since 1991, the Intel Quality Award (IQA) has challenged Intel business groups to evaluate their processes and improve their performance. The most prestigious corporate award at Intel, the IQA application requires continuous improvement, rigorous examination of operations, and high levels of excellence. In 2008, IT Flex Services—a consulting arm of Intel IT—won the IQA for the second time (previously winning in 2005).

"Our employees remain singularly focused on getting the best possible results for our internal customers, so I'm thrilled to see their efforts recognized on this scale," said Pierre Lapeyrade, director of IT Flex Services.

Some of the many achievements include: earning customer satisfaction scores higher than 99 percent, reducing overhead by 23 percent compared to 2007, and saving more than USD 5 million through supplier management efficiencies.



Intel Quality Award Representatives from IT Flex Services. Photo Courtesy of E.J. Ray.





Mike Valles, Enterprise Resource Planning Systems Integrator, and Janet Gluck, IT@Intel Program Manager

## Streamlining Project Delivery

Intel business groups need faster development cycles to respond to rapid business changes. In 2008, Intel IT continued to streamline project delivery by integrating numerous workflow tools, getting the right data in front of the right people, and increasing efficiency through a quality-management framework based on best practices and industry standards.

### Workflow Excellence

Intel IT engaged Gartner, an independent research firm, in 2004 and again in 2008 to analyze our program and project management practices. A marked improvement occurred in that time span, with IT's practices being rated "strong" in all categories in 2008.

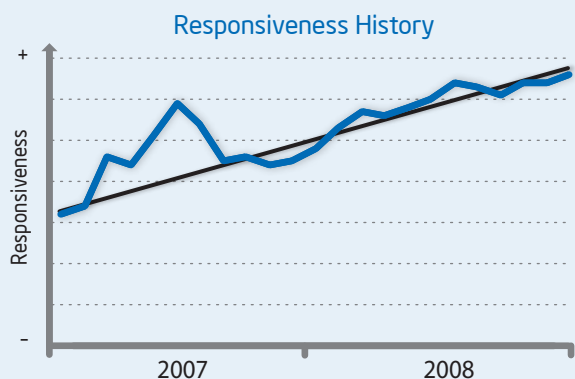
Workflow discipline is an emerging strength for Intel IT. Our efforts make work more predictable, increase the reliability of our schedules, reduce project ambiguities, and improve resource balancing. As a result, we can deliver value more quickly to our business partners.

Workflow excellence involves integrating our process-management tools to improve the high-level visibility of project performance, investments, and commitments. This integrated framework includes tools for managing projects, schedules, reporting,

planning, resourcing, and decision making. With better information and a complete, integrated toolset, our IT managers and employees can better respond to changing business requirements.

We've also improved our project delivery by establishing a goal to reduce the length of IT projects to six months or less for 90 percent of projects. By shifting to an iterative, small-project approach, we can deliver new capabilities quickly, providing more immediate benefits to Intel. This approach also gives us frequent user feedback, helping us to deliver the right solutions without unnecessary features that increase project costs.

The sweeping changes in the way we manage IT projects have made a significant difference to Intel business groups. Two years ago, the average Intel IT project took 88 weeks to



### Partnering for Performance

In 2008, Intel's business operations group partnered with Intel IT to meet demands for improved supply agility by transforming Intel's customer responsiveness. Working closely with sales, planning, logistics, and factory networks, we developed a metrics-driven approach to achieve incremental improvements. Through a series of supply chain initiatives, we exceeded the customer responsiveness goal in 2007 and 2008.

We've completed more than 50 projects, executed with an average development time of less than 21 weeks. We achieved 99 percent Capability Maturity Model Integration\* (CMMI\*) compliance and performance to committed release (PCR). The team was recognized for its operational excellence in 2008 with the Intel Achievement Award, IT Excellence Award, and Intel Innovation Award.

For 2009, we will continue to work on solutions to improve responsiveness in our supply chain worldwide.



complete. By mid-2008, 76 percent of 200 Intel IT projects under development met our six-month completion goal—an increase of 20 percent over 2007 results. Intel IT’s business partners appreciate the change, and some are adopting our project management approaches.

“Our workflow program is the pathway to world-class project management. Our organization has made visible and measurable progress, progress that benefits our business partners and Intel,” says co-CIO JJ Johnson.

Continuous Improvement

We evaluate, report, and continuously improve our performance by adopting industry-standard practices, demonstrating the value of these methods to the rest of Intel. To increase our program and project management discipline and rigor, we’ve integrated our Program Life Cycle (PLC) into Capability Maturity Model Integration\* (CMMI\*) standards for Intel IT projects. PLC is the methodology we use to define project phases and provide a project decision-making framework; it provides a link between IT workflow and our Recommend, Agree, Perform, Input, Decide (RAPID) decision-making model for IT governance. New deliverables focused on workflow objectives help ensure IT projects are delivered in six months or less by requiring that any exceptions be further evaluated and approved.

In addition, we are taking the lead at Intel to proliferate Lean Six Sigma\* (LSS), a proven, disciplined approach for optimizing processes and improving quality. This approach helps organizations identify and eliminate sources of waste and activities that do not add value. It improves workflow by maximizing productivity, capacity, and throughput.

In 2007, only 15 Intel IT employees were certified in LSS: 12 green belts, three black belts, and one master black belt. In 2008, we certified 46 candidates: 43 green belts and three black belts. For 2009, we have 98 green belt candidates and five black belt candidates. The growth in LSS certification has led to an increase in Intel IT productivity. Intel IT completed seven LSS projects for USD 20 million during 2007, and in 2008, projects resulted in a return on investment (ROI) of USD 37.7 million for the year.

LSS works by training employees to use the methodologies and then pass their knowledge on to others. Typically, it takes five years of training and direct application of the tools and methodologies for someone to reach the status of master black belt. Intel co-CIO JJ Johnson would like Intel IT to have 200 or more employees certified in LSS by 2010.

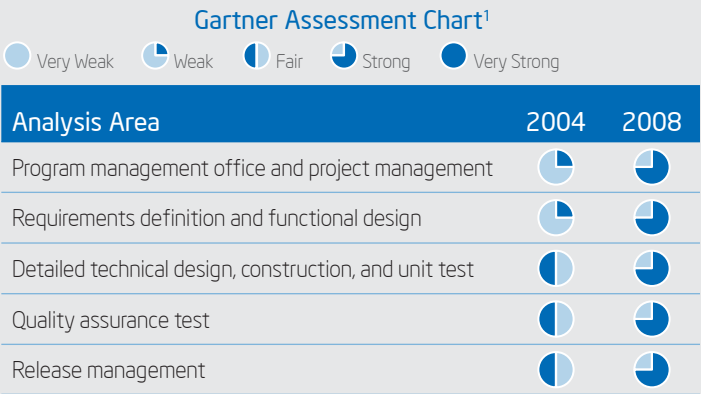
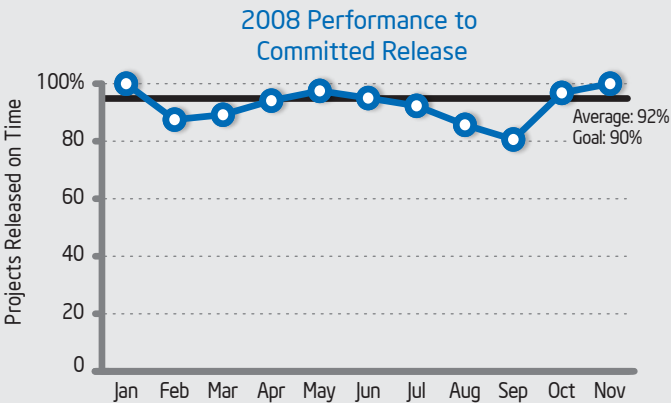


Kristi Welton, Six Sigma Black Belt

Our workflow program is the pathway to world-class project management. Our organization has made visible and measurable progress, progress that benefits our business partners and Intel.

— John “JJ” Johnson  
Intel Vice President and co-CIO

Key Project Management Metrics



<sup>1</sup> Source: Gartner, June 2008. Rankings were based on consistency with best practices, Gartner Research, and the subjective experience of the Gartner team.



John "JJ" Johnson, Intel Vice President and co-CIO

## Simplifying Workforce Decisions with Better "I"

Over the last three years, Intel IT has delivered strategic information in the form of dashboards, helping managers and leaders make better decisions as well as gauge and improve performance against goals. Our manager dashboard, for example, gives managers direct, real-time access to strategic global workforce information and analysis, streamlining workforce decision making and reducing the demands on the human resources (HR) group.

In 2008, we made several improvements that have significantly reduced throughput time for several corporate-wide processes while increasing data integrity and improving decision making. Some examples include:

- Reducing the duration of our annual employee performance review process by 50 percent, from 12 to 6 weeks, by providing managers real-time access to review information throughout the cycle.
- Providing more timely feedback about manager performance from employees through semi-annual surveys.
- Improving labor planning and reducing costs by providing senior managers with labor cost and headcount distribution information in low- and high-cost markets.
- Automating data quality monitoring to reduce data defects in HR databases.
- Providing real-time status on the hiring pipeline and more robust analytics for HR professionals, thus reducing IT support costs.

This shift of information access from HR to managers has increased manager accountability and allowed HR professionals to move to strategic consulting roles.

Due to the success of the manager dashboard, demand has increased for integrated executive dashboards for product, sales, customer, and employee data. In 2008, we began piloting an online workspace to our most senior executives. Each person's workspace provides an aggregation of key business indicators in a one-page view. Some executives reference their workspace daily or weekly as a means of monitoring their organization's overall performance.



Local School Master Mr. Nguyen Thanh Tai with Lawson Lu, IT Manager, and Hoang Dung Le, IT Factory Information System Manager

### Intel's 40th Anniversary Volunteer Challenge

In 2008, on Intel's 40th anniversary, CEO Paul Otellini challenged employees to give back to local communities around the world by donating one million hours of volunteer service. Intel IT enthusiastically responded. We sponsored our first-ever IT Community Day, with IT employees giving more than 10,000 hours to local community service projects worldwide.

In 2008, IT employees collectively contributed more than 112,925 volunteer hours to non-profit, school, and charitable groups, more than 10 percent of the million-hour challenge. We are inspired to give back to the local communities around the world in which we live and work, while having fun and building our own Intel IT community.

## Improving Resource Management

One of the most significant workflow challenges Intel IT faces is the adoption of consistent resource management practices across our organization. What started as a pilot in 2007 to address significant resource issues for a large, critical IT program evolved into a key workflow initiative.

Early in 2008, we established three major resource management goals for the year:

- Significantly improve workforce planning and employee work-life balance.
- Improve project performance and delivery by providing adequate and timely staffing.
- Make project demand and resource assignments transparent across our organization.

To address these goals, we adopted a resource management tool. The tool allows us to forecast project demand for resources, and then assign and track them based upon availability and skill-sets.

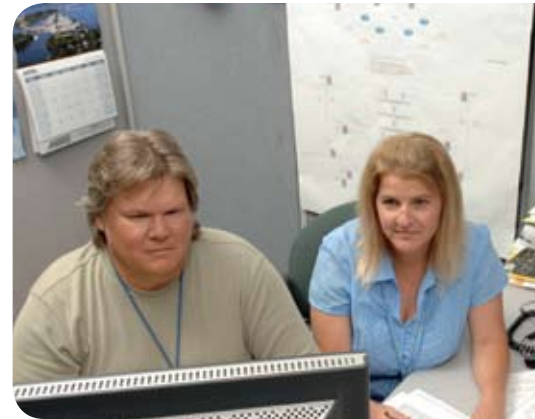
By the end of the second quarter of 2008, the tool and its associated processes were adopted across the organization. More than 95 percent of 200 projects were being actively managed in the tool, up from 43 percent in the first quarter. Usage grew significantly—from managing roughly 650 employees at the beginning of the year to nearly 3,500 at the end, about 62 percent of our staff.

### Balancing Work to Resources

Once data was in the tool, we were better able to see resource assignments, evaluate them, and address several key resource management challenges. To help scale work to match resources and help ensure reasonable workloads, we actively managed our employee utilization rates and reduced employee over-allocation to five percent or less. To improve work-life balance, we limited project teams that cut across more than two major time zones to no more than 10 percent of our projects.

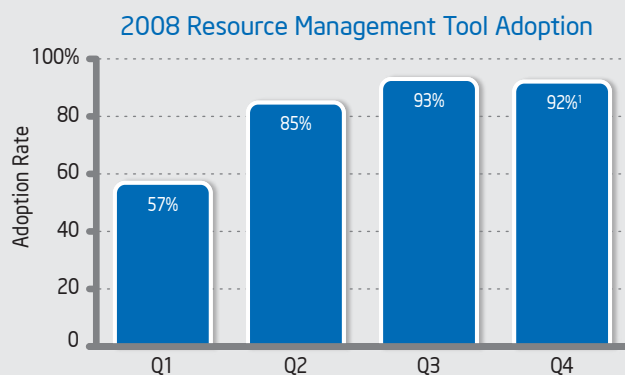
### Next Steps

Next year, we plan to optimize our processes and continue integrating our resource management tool with other key workflow tools. By actively managing resource demand and assignments, we can source projects more quickly and improve work-life balance for our employees.

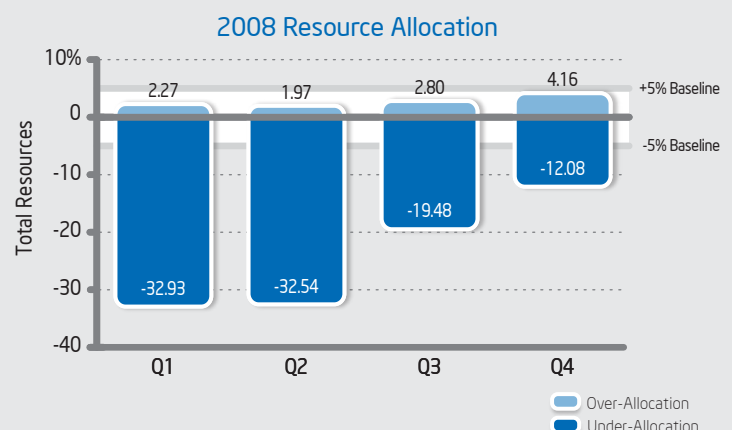


Tom Hebl, Senior Network Specialist, and Monyca McWethy, Network Engineer

## Key Resource Management Metrics



<sup>1</sup> Q4 does not include December data.





Jamie Triest, IT Product Support Specialist

## 2008 STRATEGIC OBJECTIVE TWO

# Delivering Efficient Operations

During 2008, we continued to build our data center efficiency program on the foundation we established the previous year. The long-term program aims to realize between USD 500 to 750 million in net present value (NPV) by standardizing the computing environment, increasing utilization, and reducing our data center footprint. We achieved USD 95 million in savings by implementing initiatives that included data center consolidation and accelerated server refresh. We improved our planning capabilities and aligned Intel's network to support our overall strategy. Our goal is to build a scalable computing model that can more quickly respond to Intel's constantly changing business needs.

## two OPERATIONAL EXCELLENCE

Deliver competitive IT operational services that power Intel's business

USD **95M**

Savings Attributed to Data Center Efficiency Program

**<1 Day**

Time to Contain Cyber Events

**96%**

PC Support Center Customer Satisfaction Score

### Data Center Efficiency

After developing our vision of data center efficiency and taking initial steps in 2007, we focused in 2008 on implementing the strategy.

We are consolidating computing resources into a smaller number of strategic hub data centers, which reduces cost. It also provides us with a more flexible infrastructure so that we can quickly respond as Intel's business needs change. During 2008, we continued to reduce our data center footprint through consolidation, ending the year with 75 IT data centers, down from a high of 96 in 2007.

We made substantial progress in aligning the Intel worldwide network to support this strategy and pave the way for further consolidation. To provide faster access to resources located at hub data centers, we significantly upgraded WAN infrastructure at two

of these hubs and at 27 small and medium-size data centers. We also used WAN optimization to accelerate all cross-continental WAN traffic within the United States. We completed application characterization for all core IT services, enabling us to predict and prepare for the impact of moving these services to hub data centers.

Continued success depends on accurately determining when and where we need to invest, the size of computing facilities we need, and growth trends over five to 10 years, as well as being able to quickly deliver computing resources when Intel business groups require them.

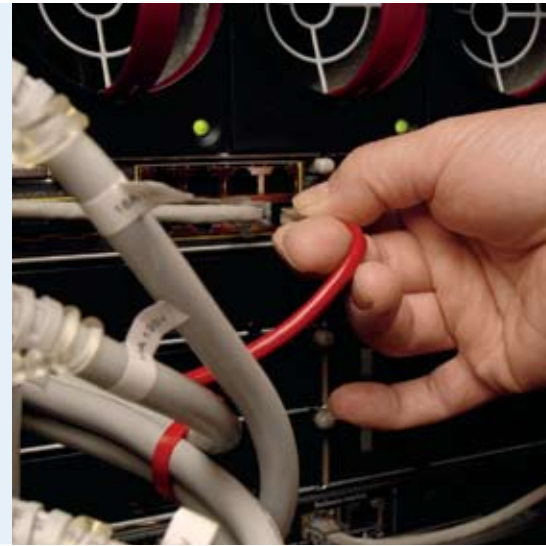
We have made progress in each of these areas, and in 2008 achieved approximately USD 95 million in savings attributable to the data center efficiency program and related computing initiatives.



## Accelerated Server Refresh Reduces Data Center Cost

As part of our efforts to achieve greater overall efficiency, Intel IT is accelerating the rate at which we refresh our design computing servers. We expect this will drive savings of up to USD 250 million over eight years while substantially reducing energy consumption.

A detailed return on investment (ROI) analysis showed that we can reduce costs by refreshing all servers after four years. Previously, we kept servers in use for longer periods to maximize their useful lives. Our analysis showed that by consolidating older servers onto newer, more powerful platforms, we can increase the compute capacity of our major data centers. This avoids capital expenditures for expensive data center construction. We have saved USD 45 million in 2008 by consolidating 20,000 older servers onto more powerful platforms that use newer Intel® Xeon® processors, enabling us to avoid construction at four locations. These new servers are also much more energy-efficient, sharply reducing energy consumption and cost.



## Planning for Efficiency

Our long-range planning accuracy averaged between 70 and 75 percent, allowing us to be more strategic in our spending decisions. In addition, we are more tightly managing our data centers. During 2007, we identified a number of smaller data centers facing power, cooling, or space constraints. These constraints made it difficult and expensive to add computing resources at those locations. We are alleviating this problem by directing new resources to our larger strategic data centers. During 2008, we installed 72 percent of new servers at the strategic locations, exceeding our goal of 45 percent, and we were able to add new servers more quickly in response to business group requests. This approach helped reduce data center capital expenditure by USD 45 million in 2008.

Our experiences to date demonstrated the need to thoroughly understand our business and showed that having a vision effectively drives requirements.

To provide more detailed information to business groups, we supplemented our long-range planning with shorter-term snapshots covering an 18-month timeframe.

We also learned that designing and investing in infrastructure is challenging but necessary to achieve greater efficiency and responsiveness. Our goal is to create a highly responsive, scalable computing model so that we can quickly adapt computing resources to meet changes in Intel's business.

## Next Steps

In 2009, we plan to develop our strategy to optimize storage and curtail its cost. We will continue aligning our WAN and data centers with the overall strategy, while focusing on solving the challenge to provide very fast network response times for interactive design applications. We anticipate that, overall, the strategy will require investment of approximately USD 40 million during 2009 and will generate savings of approximately USD 102 million in return.



David Brockmyer, Regional Data Center Manager



New Mexico Data Center

## Powering Intel's Operations

In 2008, we continued to meet the challenge of supporting Intel's highly complex worldwide computing environment. We provided more than 31,000 PCs with Intel® vPro™ technology to employees using a streamlined PC delivery process. We began production deployment of a new enterprise application environment based on virtualization, and we provided network services to keep pace with explosive demand growth and to support Intel's product transition to 45-nm technology.

### Service Desk

As the first point of contact for IT issues, the Service Desk powers Intel with round-the-clock support for Intel employees, customers, and suppliers, and also provides continuous infrastructure monitoring.

In 2008, our Service Desk operations, based in Malaysia and Costa Rica, managed 1.39 million contacts, 16.6 percent more than in 2007. We provided support for more than 150 different IT products and services, primarily by phone, chat, and Web channels.

Maintaining customer satisfaction was difficult due to multiple business challenges stemming from our efforts to reduce costs. Even so, we ended the year with an 89 percent overall level of customer satisfaction, a figure higher than the industry average.

We are committed to achieving customer satisfaction goals of more than 90 percent and continue to drive improvements by elevating support quality and agent skills, building lasting customer relationships, establishing user advisory forums, and redefining the Service Desk experience around our users.

### Hardware Support

We gave employees more than 31,000 PCs with Intel vPro technology, which provides improved performance, power efficiency, connectivity, and manageability.

We streamlined client PC delivery through automation and process optimization. This halved data migration times, created efficiencies due to higher volumes, and provided a better educational experience for users. We can now deploy twice as many systems to Intel employees in the same timeframe.

## Performance on Critical Service Level Agreements

Metric Detail	Goal	Actual
<b>Material customer impact</b> <i>No significant operational excursions on business-critical applications: Order, Ship, Bill, Pay, Close</i>	0	0
<b>E-mail uptime</b>	99.98%	99.99%
<b>Tapeout delay</b> <i>Hours per quarter</i>	132	83
<b>WAN availability</b>	99.95%	99.99%
<b>Time to contain cyber events</b>	< 7 days	< 1 day
<b>Service Desk customer satisfaction</b>	90%	89%
<b>PC support center customer satisfaction</b>	95%	96%
<b>First-call resolution rate</b>	88%	89%

## Development on Demand

Intel developers and employees in labs often need new test and development systems for specific projects. Traditionally, this has often meant purchasing dedicated hardware, even if it is used for only a short time to run a set of tests.

To address this, we created Development on Demand (DoD), which allows developers to rapidly create virtual development environments hosted on existing servers. After a developer submits a request, it typically takes only 10 minutes to create a virtual machine (VM). Resources consumed by the VM are subsequently returned to the pool so they can be used by other projects.

Because the project was ahead of its time, we faced implementation challenges and delays. Now, however, the rewards are great. DoD helps speed development and cuts costs. Each DoD instance can host as many as 150 simultaneous VMs and generates an anticipated return on investment of USD 2 million.

We replaced most of our aging printers world-wide, installing more than 1,800 new printers that provide Intel employees with access to advanced printing and imaging capabilities.

During 2008, we introduced our first problem resolution process for client PCs that proactively uses system-reported data, rather than relying entirely on user reports. It collects data from client PCs, documents system problems, and then analyzes the data. This lets us identify issues even when users do not report them. We conducted a pilot that showed substantial user productivity benefits associated with the process, which is able to engage IT support before users become aware of problems. We have now fully deployed the process and aim to use it to remediate 50 percent of “blue screen” generating defects.

## Application Hosting

Using virtualization, we are consolidating the enterprise application workloads of multiple older servers and hosting them on newer, more powerful and energy-efficient servers. This provides a more agile and cost-effective

infrastructure; we expect this will save Intel more than USD 1.5 million due to server footprint reduction and cost avoidance.

## Supporting Intel's Network

To support Intel's transition to processors based on 45-nm process technology, we provided network services on schedule to help enable construction of several new semiconductor factories and the conversion of existing factories to 45-nm technology.

We facilitated collaboration with external business partners by supporting approximately 380 links between Intel and other companies, including customers and suppliers.

We kept pace with explosive growth in network bandwidth demand, delivering WAN upgrades and using WAN optimization to provide continued service without degradation.

We supported Intel's WiMAX\* initiatives through activities that included external infrastructure hosting, secure data connectivity into Intel, and remote management of the system end to end.



Richard Maguire, IT Flex Services Group Manager, and Vincent Apodaca, Software Engineer



Scott Duncan, Technical Project Manager

## Adding Business Value

Intel IT measures the value our organization returns to Intel as top-line growth and bottom-line improvements through a business-value methodology. We use a portfolio management process and a net present value (NPV) business-value methodology to make and communicate investment decisions.

### Portfolio Management

Our portfolio management process, in conjunction with a five-year NPV metric, enables IT operations and finance professionals to conduct a full investment performance analysis that spans the IT organization. In 2008, we integrated the results of this analysis into our decision-making process, and we provide regularly scheduled reviews of each project before committing funding.

Using portfolio management, we are able to focus on projects that have a combined NPV of approximately USD 1.4 billion over the next five years.

### Realized Dollar Savings

As IT continues to invest in critical projects and absorb increasing product demand, it is imperative to proactively manage the cost-effectiveness of the computing environment that keeps Intel running. To build a culture of cost ownership and recognize the ongoing effort to enhance our efficiency, IT Finance developed a fair, consistent, IT-wide cost-savings consolidation and rewards program: the IT Cost Challenge. All Intel IT business groups participated in the IT Cost Challenge, which fortifies IT profitability projections, enables a common framework for savings analysis, and highlights IT-wide savings efforts to senior management. During 2008, we achieved USD 48 million in validated cost savings for our business groups, exceeding our target goal of USD 40 million.



Tom Greenbaum, Data Center Manager

## Reducing Costs by Retiring Applications

We are continuing our initiative to significantly reduce costs by retiring applications that are outdated or no longer needed. This work began in 2007, when we identified that many of these applications still consumed platform or maintenance resources. We now have an ambitious plan to reduce IT-owned applications by 50 percent, from about 1,600 to 800, over four years.

We created a database to characterize and inventory IT applications, a methodology for determining which applications to retire, and a process for reclaiming associated data. We also created a process for analyzing cost savings.

By the third quarter of 2008, we had reduced the number of applications by 37 percent since the start of the program. Based on progress to date, we expect to achieve our 50 percent target by the third quarter of 2009, more than a year ahead of the original schedule. We expect that retiring applications will result in a NPV of more than USD 50 million.



## Managing IT Spending

In 2008, we continued to experience increased demand for IT products and services, such as Voice over Internet Protocol (VoIP) phones and collaboration rooms, evidenced by a 38 percent increase in WAN traffic. In response, Intel IT continued using data-driven tools to identify investment opportunities and tightly managed controllable spending.

### IT Spending

Our first measure of IT spending as a percentage of Intel revenue was 3.66 percent in 2006. This metric includes IT spending by non-IT business groups, but does not include stock-based compensation expense. We implemented a plan to reduce overall IT spending to 2.60 percent by 2010 and bring most IT spending under the control of our co-CIOs. By the end of 2008, we had reduced overall IT spending to only 3.12 percent of Intel revenue.

We continue to implement IT efficiency efforts to reduce cost and emphasize the financial discipline that helps IT focus on improving competitiveness and profitability. Focus areas include:

- Data center efficiency (see pages 12-13).

- Standardizing business processes and applications through transforming our enterprise resource planning (see page 21).
- Optimizing support technologies by improving server utilization and consolidating data storage (see pages 14-15).
- Driving more efficient use of capital expenditures through financial analysis and indicators (see page 16).
- Managing supplier costs by optimizing services, reviewing key supplier spends, considering dual-source options, and eliminating unnecessary services.

In 2008, we maintained cost reductions and made investments in new capabilities while limiting increases in IT spending.



Noel Tabotabo, Network Engineer, and  
Joe Roncho, Enterprise Architect

### Reducing Data Center Costs and Carbon Footprint with an Air Economizer

We continue to look for ways to reduce costs and conserve resources, including finding new, more efficient ways for operating our data centers. To challenge established industry assumptions regarding data center cooling, Intel IT conducted a proof of concept (PoC) test that used an air economizer to cool production servers with outside air at very high temperatures of up to 90 degrees Fahrenheit.

Rather than using air-conditioning to cool data center IT equipment, air economizers expel hot air outdoors and draw in outside air for cooling. With this approach, we could use an economizer to provide nearly all data center cooling, substantially reducing power consumption and environmental impact. This could potentially reduce annual operating costs by up to USD 2.87 million for a 10-megawatt data center.

The current industry assumption is that air economizers can be used only when the outside air is relatively cool. In our PoC, however, servers were subjected to considerable variation in temperature and humidity as well as poor air quality, yet there was no significant increase in server failures. If subsequent investigation confirms these promising results, we anticipate using this approach in future data centers.



Don Atwood, Regional Data Center Manager



Skip Freamon, Application Developer, and  
Connie Westley, Training Developer

## Managing the Enterprise with Intel® vPro™ Technology

Intel IT is currently adopting Intel® vPro™ technology, a platform capability that will improve our ability to remotely discover, heal, and protect client systems—thereby reducing support costs and improving system uptime and employee productivity. This experience enables us to provide valuable, strategic input to Intel's platform groups and serve as an example of a real-world implementation to help facilitate industry-wide adoption.

We have been setting up the skill sets, applications, platforms, and infrastructure to improve client manageability using Intel vPro technology. Our goals are to:

- Achieve greater efficiency in client manageability, resulting in reduced support costs, increased user productivity, and faster problem resolution.
- Provide input to Intel's platform groups to help them design future Intel vPro technology capabilities.
- Provide real-world experience that helps speed adoption of Intel vPro technology by other organizations.

In 2008, we focused on provisioning client PCs to take advantage of the new management capabilities, implementing an enterprise management console, and preparing our support staff for specific use

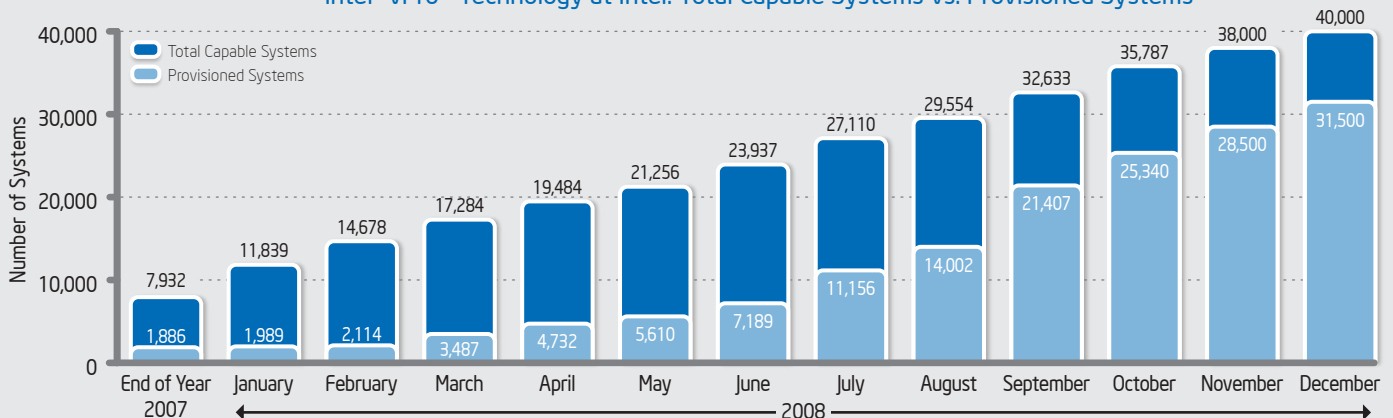
cases. We provisioned more than 31,000 PCs; we aim to enable the rest of our environment by 2010 as we refresh clients.

We have adopted three Intel vPro technology support use cases to date: remote diagnosis and remote repair, remote diagnosis and local repair, and remote configuration. These will enable us to remotely fix and reboot many unresponsive PCs, diagnose hard drive problems, and configure client BIOS.

We expect this will reduce support costs as well as improve employee uptime and productivity. We currently estimate cost savings of at least USD 0.45 million in 2009 and USD 0.9 million in 2010, based on our three current use cases. We expect additional savings as we add more use cases focusing on security and asset discovery.

## Key Enterprise Management Metric

Intel® vPro™ Technology at Intel: Total Capable Systems vs. Provisioned Systems



## Managing Intel's Information Risk

In addition to keeping Intel running, Intel IT promotes a culture of ethics beyond reproach, legal compliance, and an appropriate level of information risk management. We apply the correct level of protection to Intel's information systems and help ensure the availability of critical information.

Intel runs on technology and information. IT helps to enable the rest of the company to comply with laws and regulation as well as our internal policies. We give careful consideration to managing information, information risk, security, and compliance.

### IT e-Discovery

In a little over a year, we defined, deployed, and enhanced our e-Discovery capabilities, including a more efficient e-mail retention tool, better integration of e-Discovery into IT processes, worldwide preservation and collection of data, and better integration of IT knowledge with legal knowledge. Since its inception, we have supported about 150 legal matters and preserved more than 210 terabytes of data. This new capability enables Intel to continue to comply with court orders and regulatory requests more quickly and efficiently.

### Web Presence and External Applications

Faced with ever-changing threats against Intel's external Web presence, we have renewed our focus on risk and security. We implemented a proactive program that examines all new applications connected to the Internet to minimize vulnerabilities and mitigate security risks, and have enhanced our assessment of outsourced activities. We also established a review board, comprised of senior managers from the business groups, to review and manage the risk profile for Intel's external online presence. We participate in major social media projects and have added controls into Intel's consumer-focused online presence program to help ensure the appropriate level of risk mitigation.



Alis Wanninger, Enterprise Resource Planning Systems Analyst

### Keeping Intel IT Legal: Institutionalize controls that manage information risk and keep IT and Intel compliant with applicable laws

Capability	Goal	Results
Data protection	<ul style="list-style-type: none"> <li>Reduce the risk of data leakage due to lost or stolen laptops.</li> <li>Reduce outsourcing risks.</li> </ul>	<ul style="list-style-type: none"> <li>Deployed encryption on 100% of pre-selected laptops. Completed enterprise-wide pilot study.</li> <li>Reduced high-risk outsourcing items by 75%.</li> </ul>
Privacy	<ul style="list-style-type: none"> <li>Maintain regulatory compliance.</li> <li>Establish privacy compliance ownership in all business groups that process personal data.</li> </ul>	<ul style="list-style-type: none"> <li>Safe Harbor review completed and annual recertification approved.</li> <li>Implemented compliance review process, broadening responsibility for compliance to the business groups.</li> </ul>
Sarbanes-Oxley (SOX) compliance	<ul style="list-style-type: none"> <li>Help ensure compliance with regulatory requirements.</li> <li>Manage acceptable risk for critical aspects of our business.</li> </ul>	<ul style="list-style-type: none"> <li>Maintained passing grade on SOX with less than 15% deficiency rate.</li> <li>Institutionalized general IT controls.</li> </ul>
Training and awareness	<ul style="list-style-type: none"> <li>Maintain 95% compliance rate for Intel employee training.</li> <li>Influence secure behavior among Intel employees.</li> </ul>	<ul style="list-style-type: none"> <li>Provided 220,000 courses to Intel employees, surpassing 95% compliance for information security and privacy courses for the third consecutive year.</li> <li>Intel ranked among the top three most secure companies for employee behavior in an independent survey.</li> </ul>



Kristin Ellis, Network Specialist

# three BUSINESS SOLUTIONS

Deliver information and technology solutions that create top- and bottom-line improvements for Intel

## 99.96%+

Factory Uptime

## 100%

Supply Chain Projects  
CMMI\* Compliant

## USD 33M

Cost Avoidance Due to  
Increases in Design Compute  
Utilization and Capacity

## 2008 STRATEGIC OBJECTIVE THREE

# Delivering I + T for Top- and Bottom-Line Improvements

At Intel, IT is a competitive capability that directly impacts Intel's top and bottom lines. We deliver information and technology solutions that align with corporate strategies. Our IT experts meet with customers and participate in industry events, and we positively influence Intel product design based on our IT operations. From sales to product delivery, our solutions and people are helping to make Intel more efficient, profitable, and responsive to Intel's customers.

## IT Strategic Planning

To better align our business solutions with those of the corporate business groups, Intel IT implemented a new approach to strategic planning in 2008. This approach addresses the challenges of today's rapidly evolving business climate by not only looking at how to deliver solutions that keep us ahead of the technology curve, but also by asking an essential question: Do these changes support the overall direction of the company?

Looking further out across the horizon—from two to five years—enables our strategic planning process to reach beyond the typical one- to two-year financial cycle. In doing this, we can closely align our solutions with increasingly important business needs.

In 2008, we focused our strategic planning process on five phases:

- **Environmental scanning** to determine current key areas and megatrends in the IT environment—including global trends and Intel strategy—that will shape or put demands on IT.

- **Capability assessments** to get a snapshot of the health of our IT capabilities.
- **Competitive benchmarking and analysis** to help ensure we integrate industry best practices into our strategic plan to achieve superior performance.
- **Strategic deep dives** to investigate the impact on IT of emerging areas—such as the collaborative enterprise, cloud computing, social computing, and compliance issues—and to better understand the opportunities and risks.
- **Strategic imperatives and roadmaps** that summarize our goals and objectives for the next three years.

Our new strategic planning process helps us align our IT investments with Intel strategies and instills agility into the organization by looking forward and anticipating future trends that affect Intel. Based on the results from this process, we developed detailed IT roadmaps and set our 2009 budget priorities.



## Managing Intel's Supply Chain

Effective supply-chain management is critical to Intel's ongoing success. In 2008, we continued to transform and simplify the enterprise resource planning (ERP) environment, which directly affects the supply chain. We improved our customer responsiveness and exceeded our goals for timely delivery of products to Intel's customers. We partnered with our internal stakeholders to use a metrics-driven approach, which allowed us to make significant incremental improvements that enable an increasingly lean and agile supply chain. This transformation not only improves customer responsiveness, it also results in significant cost savings that affect Intel's bottom line.



Faiza Ibrahim, Systems Analyst

### Delivering software solutions

Capability	Goal	Results
Supply planning data quality and availability	<ul style="list-style-type: none"> <li>Migrate and stage data for all Intel products to new Item and Bill of Material standards to increase productivity and data reliability.</li> </ul>	<ul style="list-style-type: none"> <li>Migrated 100% of product data and staged it for consumption.</li> </ul>
Environmental compliance	<ul style="list-style-type: none"> <li>Deploy solution to enable automated creation of Restriction of Hazardous Substances (RoHS) documentation for Intel products.</li> </ul>	<ul style="list-style-type: none"> <li>Solution implemented for silicon-based products.</li> </ul>
Supplier-managed inventory and retail boxing supply systems	<ul style="list-style-type: none"> <li>Achieve corporate customer responsiveness goal: Say "yes" to our customers within one business day.</li> </ul>	<p>Exceeded corporate goal by:</p> <ul style="list-style-type: none"> <li>Forward-positioning inventory closer to our customers.</li> <li>Using prototype capabilities to gain user feedback.</li> <li>Delivering scalable capabilities focused on process simplification and indicator data collection.</li> <li>Distributing and managing measurable success indicators.</li> </ul>

### Keeping our business running

Capability	Goal	Results
Supply network production support for manufacturing computing	<ul style="list-style-type: none"> <li>Achieve world-class results of better than 99.96% uptime.</li> </ul>	<ul style="list-style-type: none"> <li>Exceeded goal.</li> </ul>
New product introduction support	<ul style="list-style-type: none"> <li>Effectively implement new Intel® product and manufacturing process introduction.</li> </ul>	<ul style="list-style-type: none"> <li>Implemented twice the number of new products and automation capabilities in Assembly Test Manufacturing factories (compared to 2007).</li> </ul>
Improving software testing quality	<ul style="list-style-type: none"> <li>Implement phase containment effectiveness (PCE) metric to improve quality of software testing.</li> </ul>	<ul style="list-style-type: none"> <li>Implemented PCE in Q4: Preliminary results are positive.</li> </ul>
Solid program execution	<ul style="list-style-type: none"> <li>Meet committed delivery at a rate of greater than 90% performance against schedule (PAS).</li> <li>Support successful factory startups and ramps.</li> <li>Deliver first and second phases of outsourcing plan to move IT employees to higher-value work.</li> </ul>	<ul style="list-style-type: none"> <li>Achieved PAS goal.</li> <li>Enabled flawless factory ramps in Malaysia and China. Malaysia factory shipped qualified product two weeks ahead of schedule.</li> <li>Implemented first and second phases of outsourcing plan successfully to drive down total cost of ownership for Intel.</li> </ul>



James Chen, Director of Engineering Computing

## Partnering with Silicon Design Teams

Intel IT works in close partnership with Intel's semiconductor design teams to support all phases of design workflow and provide a highly available and reliable computing environment. Increasing silicon design complexity, shorter design cycles, and budget pressures present continuing challenges and push the limits of our IT infrastructure. In 2008, we responded with initiatives to increase compute utilization and capacity for batch design that resulted in cost avoidance of more than USD 33 million. We also worked closely with Intel silicon design teams to help them develop several major new products.

### Increasing Utilization and Minimizing Cost

Our partnership with Intel silicon design teams, which includes co-locating IT engineers with the teams, helps us plan capacity and quickly respond to changes in requirements. Satisfaction among our design customers remains high, at over 93 percent.

During 2008, we responded to rapidly growing compute demand with initiatives that increased compute utilization. This effectively expanded design computing capacity while reducing the need to purchase additional hardware. One of the initiatives was data center virtualization (DCV), which brokers unused capacity at major data centers, enabling large batch design jobs to utilize compute resources located across multiple sites. DCV resulted in cost avoidance of USD 33 million in 2008.

We achieved and maintained 80 percent utilization, approximately 10 percent more than in 2007. This not only reduced the need to purchase more resources, it added capacity for nearly 4,000 more jobs each month.

### Intel® Core™ i7 Processor

Intel® Core™ i7 processor is Intel's latest multi-core processor for high-end desktop PCs. Design of this processor required a substantial increase in projected computing capacity, which drove the construction of Intel's first high-density data center.

We faced several challenges. Late in the project, compute demand unexpectedly surged to twice the original forecast. Using DCV, we were able to respond by providing double the locally available capacity. Peak utilization reached more than 24,000 concurrent jobs, enabling the project to stay on schedule.

Other enhancements to the computing environment included higher-speed network connections and tiered storage to accelerate data access.



Data Center Virtualization Team

## Intel® Atom™ Processor

We provided IT planning, support, and reliable computing capacity to enable cross-site development by the team developing Intel® Atom™ processors. The Intel Atom processor is Intel's smallest and lowest power-consuming processor built for Mobile Internet Devices (MIDs), netbooks, and nettops.

We engaged with internal and external organizations to find the most efficient ways to purchase and provide capacity. This allowed the design team to concentrate on design requirements. We frequently resolved short-term shortages of compute resources by rapidly reconfiguring infrastructure refresh orders and redirecting them to the design project. We were able to minimize the impact of maintenance on product development by limiting scheduled downtimes to once per year.

The design group recognized us for creatively using compute server power monitoring to proactively predict losses in electrical power, engage backup power, and subsequently drive resolution of the problem. This allowed the design team to complete critical project phases without interruption.

## Sandy Bridge Microarchitecture Design Computing Support

Development of a major new Intel microarchitecture code named Sandy Bridge brought new IT-computing scalability challenges, including steep growth in the number of compute cycles and the size of the model, which translated into 16 to 25 GB of memory per job and intense performance for file server data access. We also had to reduce computing cost.

We worked closely with the design team to port more than 70 percent of design flows to DCV. This typically enables design jobs to use remote servers at five sites. Additional use of pooled compute resources enabled us to reduce planned server purchases by USD 1.35 million during 2008.

We addressed the memory requirements of large validation jobs through a new job-allocation mechanism. Using techniques developed during the Intel Core i7 processor project, we resolved file server performance limitations by implementing a faster infrastructure and by working with our design customers to introduce data-compression and data-caching mechanisms.



Liem Nguyen, Application Developer

## Intel IT's High-Performance Computing Capability Makes TOP500\* List

In 2008, Intel IT made its first submission to the TOP500\* project to measure high-performance computing (HPC) capabilities engineered by Intel IT and compare these capabilities to other HPC sites around the world. The TOP500 project ranks and details the 500 most powerful known computer systems worldwide and releases its list twice per year.

In November 2008, the two HPC submissions from Intel IT ranked 92 and 116 in the list. Among the 282 HPC clusters submitted to the TOP500 list with gigabit Ethernet interconnects—still the most common interconnect technology used in HPC clusters—Intel IT submissions ranked 5th and 18th in the world. Intel IT built these submissions and they reside within Intel, serving complex tapeout functions for all our silicon designs. Intel co-CIOs JJ Johnson and Diane Bryant said having these two systems so high on the list is a testament not only to Intel® products, but also to the quality and ingenuity of the people who work in Intel IT.

Rank <sup>1</sup>	Computer	Cores	R <sub>max</sub> <sup>2</sup>	R <sub>peak</sub> <sup>2</sup>
92	Intel-SCTO-HPC2A	5,184	27.72	62.21
116	Intel-ORTO-HPC2A	4,000	25.53	48.00

<sup>1</sup> Submissions based on blade platforms with Intel® Xeon® processor 5400 series (3.0 GHz) and gigabit Ethernet interconnects.

<sup>2</sup> Maximal LINPACK performance achieved (R<sub>max</sub>) and theoretical peak performance (R<sub>peak</sub>) values are in teraflops.



Lupe Villa and Debra Adams, Senior Administrative Assistants

## Improving Customer Sales

Intel IT continued collaborating with Intel's Sales and Marketing Group (SMG) to better support customer relationships by making it easier for customers to do business with us. We contributed to delivering Intel's online sales vision, and we created tools and provided higher quality data to help increase sales force efficiency. By better supporting the sales team, we positively affect Intel's growth.

### Intel's Online Vision

Intel set out to enhance its ability to market and influence the purchase of Intel technologies and products online by providing a relevant and innovative consumer experience.

To help Intel achieve this vision, we collaborated with SMG in the design, delivery, and management of new infrastructure required for Web 2.0. This included a new Web presence in 19 languages and interactive content, such as *What's Inside You*, a microsite where anyone can share how Intel technology helped turn an idea into reality. We are also helping Intel dynamically deliver marketing content to the Web sites of our original equipment manufacturer (OEM) partners as part of our co-marketing relationships. Global visibility on the Web strengthens the Intel® brand.

### Helping the Sales Force

To help the sales force spend less time searching for pertinent sales information and more time sharing it with customers, we consolidated sales and product collateral—such as case

studies, white papers, and roadmaps—into a single location on the Intel intranet.

The Sales and Marketing Content Repository (SMCR) offers straightforward navigation, easy-to-use search options, subscriptions and alerts, archiving features, and previews of upcoming sales information.

### Improving the Forecast

As with many companies, Intel handles volumes of data, much of which is not easily converted into information the sales force and management need to make decisions. To provide the vital metrics that truly assess and forecast the market, we partnered with SMG to pilot sales dashboards to country and account managers. Delivering dashboards to fulfill sales force needs requires a significant commitment by sales management and Intel IT. In 2009, we plan to continue dashboard delivery while increasing executive leadership, designing a worldwide data architecture, consolidating the database, and aligning key performance metrics worldwide.

### Intel's Online Vision

- 20+ languages
- 14 million unique visitors per month
- 100+ million page views per month
- 26% growth in page hits year over year
- 8.8 million downloads
- 62 terabytes of data transfer per month
- 250+ servers



*What's Inside You* Microsite



## Helping to Lead the IT Industry

In 2008, Intel product developers continued to turn to Intel IT to help them define and develop IT industry requirements. We believe it is our responsibility to share best-known methods for using technology to make better decisions, to influence product roadmaps, and to connect people across disciplines and across the globe.

### Influencing Product Design

The product development process is complex. Intel product design teams must collect and sift data and requirements from a variety of sources. During a future product's planning phase, they tap into Intel IT's expertise in IT engineering and operations to help define essential features and capabilities. Because Intel IT models the characteristics of an enterprise IT organization, teams can be confident that if a product meets our requirements, it will also meet those of many other enterprise IT organizations.

For example, partnering with our product engineers, we deployed three use case studies for Intel® Active Management Technology

(Intel® AMT). These use cases illustrated the value of Intel AMT in an operational setting, allowing the sales team to apply these examples to prospective customers. (See page 18 for descriptions of use cases.)

During 2008, we also worked closely with Intel's Mobile Wireless Group to help define wireless products, such as adding logon capabilities to Intel wireless clients, including Intel® PROSet/Wireless Software, and we worked with Intel's Digital Enterprise Group in their strategic planning efforts to help define client manageability requirements for 2011. These are a just a few of the areas where we've provided support and input to develop products that better address industry requirements.



Philip Low, Senior Software Engineer

### Sharing our Experience: IT@Intel

Through the IT@Intel program, senior staff—architects, researchers, and engineers—share IT-related experiences with industry colleagues. IT@Intel supports innovation and collaboration in the industry by sponsoring and participating in an array of activities; in 2008, we participated in 305 customer meetings and 92 industry events.

The program also creates a variety of content—from white papers and briefs to online videos and social media—by working with our IT subject-matter experts. This content demonstrates industry leadership by sharing our own IT challenges and solutions, and Intel's field sales representatives use it to engage with customers.

Through social media activities, IT@Intel engages with the IT industry on topics ranging from data centers to server and client systems. The public can discuss hot topics with Intel IT professionals by visiting [www.intel.com/IT](http://www.intel.com/IT).



Stephen Anderson, Systems Programmer

# 2009

## FUTURE PLANS



Diane Bryant, Intel Vice President and co-CIO

### 2009 IT Strategic Imperatives

#### One

Build an engaged and energized IT team

#### Two

Deliver cost-competitive IT operational services that power Intel's business

#### Three

Deliver enterprise solutions that drive Intel's growth

#### Four

Impact Intel's product development and showcase the value of Intel technology

## Plans for 2009

**Given the current worldwide economic environment, in 2009 it will be even more critical for IT organizations to deliver solutions and services to help drive company-wide efficiency and productivity.**

Past experience tells us that demand for IT services will grow regardless of economic conditions. The challenge for IT organizations will be in prioritizing technology investment opportunities. We plan to continue to invest in programs that reduce our overall operations and improve employee productivity. Through operating efficiencies gained, we will be able to invest in new capabilities that support Intel's growth strategy.

### 2009 IT Strategic Imperatives

Tied to Intel's corporate strategies, our strategic imperatives (SIs) are relatively unchanged in 2009, as we remain focused on developing our people, delivering competitive operational services, and delivering enterprise solutions. For 2009, we are adding a fourth SI to formally recognize our responsibility to partner with Intel business groups in shaping Intel products, demonstrating the value of Intel® architecture-based solutions, and sharing our results with the industry.

### 2009 Priorities

We'll maintain the momentum we've gained in reducing operating costs by focusing on data center consolidation and efficiency programs as well as by managing our clients with Intel® vPro™ technology. We will apply that same efficiency vigor in reducing the cost of storage solutions, an area of growing concern given the explosion in stored data. In 2009, we will continue to focus the bulk of our enterprise applications effort on the enterprise resource planning (ERP) replatform, marking the third year of this effort. By year end, we expect this initiative to be almost 90 percent complete.

Intel is an information company at its heart. Therefore, a key priority is to deliver the full value of Intel's information to solve key business challenges. This includes product lifecycle management (PLM) and product data management (PDM) solutions, providing integrated product data, processes, and business systems to reduce the time to design and bring products to market. We will continue to deliver sales and supply-chain automation to improve our responsiveness to Intel customers and make our supply chain more efficient.

In economic downturns, companies turn to their IT organizations to help boost employee productivity. Faced with a dispersed, worldwide workforce and increasing demands on Intel employees to stay connected to each other and to customers, we've placed collaboration and enterprise social media capabilities on our roadmap for 2009.

Our organizational health has improved dramatically in 2008. In 2009, we will continue our focus on improving the organization for the benefit of IT's core asset—our people. We are excited about our plans for 2009 and look forward to delivering IT services that result in competitive differentiation for Intel.

## Providing Better Information through Product Lifecycle Management

In our mission to deliver competitive I + T, in partnership with design and manufacturing groups, Intel IT began integrating the product lifecycle management (PLM) process for designing and marketing products with the existing product data management (PDM) system for manufacturing. PLM and PDM solutions improve communication and collaboration across the organization by providing integrated product data, processes, and business systems. This real-time, integrated information can be key in reducing errors, product design time, and time to market.

Originally developed by Intel manufacturing in the 1990s, our PDM system serves more than 30,000 users corporate-wide. As Intel transitions to a platform focus, Intel IT is partnering with the design groups to provide

an enterprise PLM system, further integrating our existing PLM and PDM solutions.

"With the growing complexity of Intel's product lines and the focus at a platform level, an integrated, enterprise PLM and PDM solution is a requirement for Intel's future," said Diane Bryant, Intel vice president and co-CIO.

"This evolving PLM capability is intended to improve Intel's platform and product development efficiency throughout our development lifecycles. We are certainly in a strong learning phase as we adopt PLM into our development flow. Product development teams are partnering with IT to help ensure we deliver an enterprise scalable solution and improved business results for Intel," said Stephen L. Smith, Intel vice president and director of Digital Enterprise Group operations.

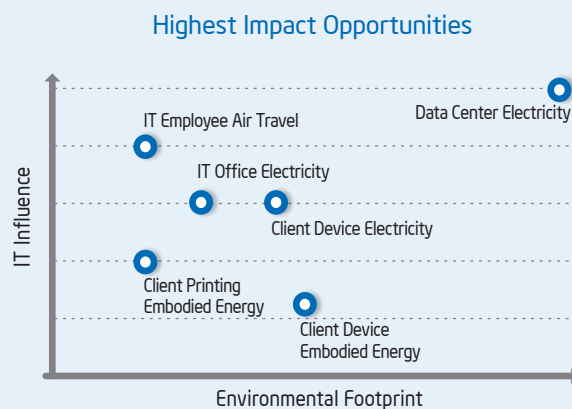


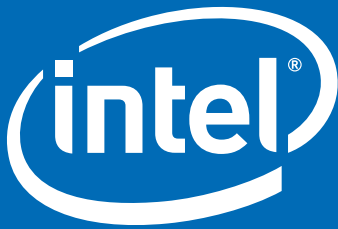
Jun Ohizumi, Systems Analyst

## Intel IT Goes Green with a New IT Sustainability Program Office

In 2008, IT launched several projects as part of our vision to consume less energy and emit less carbon. We describe results from our data center efficiency program on pages 12 and 13, as well as a proof-of-concept project in the New Mexico data center that cut energy cost by using outside air for cooling on page 17. Other projects this past year included the installation of 14 collaboration rooms. This technology has allowed IT employees to work together more effectively while cutting the cost of travel. We have implemented 1,800 secure printers, reducing paper use by 20 to 30 percent.

We have formed a new IT Sustainability Program Office to better manage the various projects. IT sustainability is the study and practice of using information and computing technology resources in a manner that the planet can support indefinitely. To achieve sustainability, we will both reduce total consumption and use efficient technologies to improve global performance. This new office will help to catalyze change within IT and across Intel and the industry, focusing first on opportunities with the highest impact, such as electricity use in data centers and IT employee air travel.





[www.intel.com/IT](http://www.intel.com/IT)


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0109/PDR/KC/PP/10k Order Number: 311133-004US