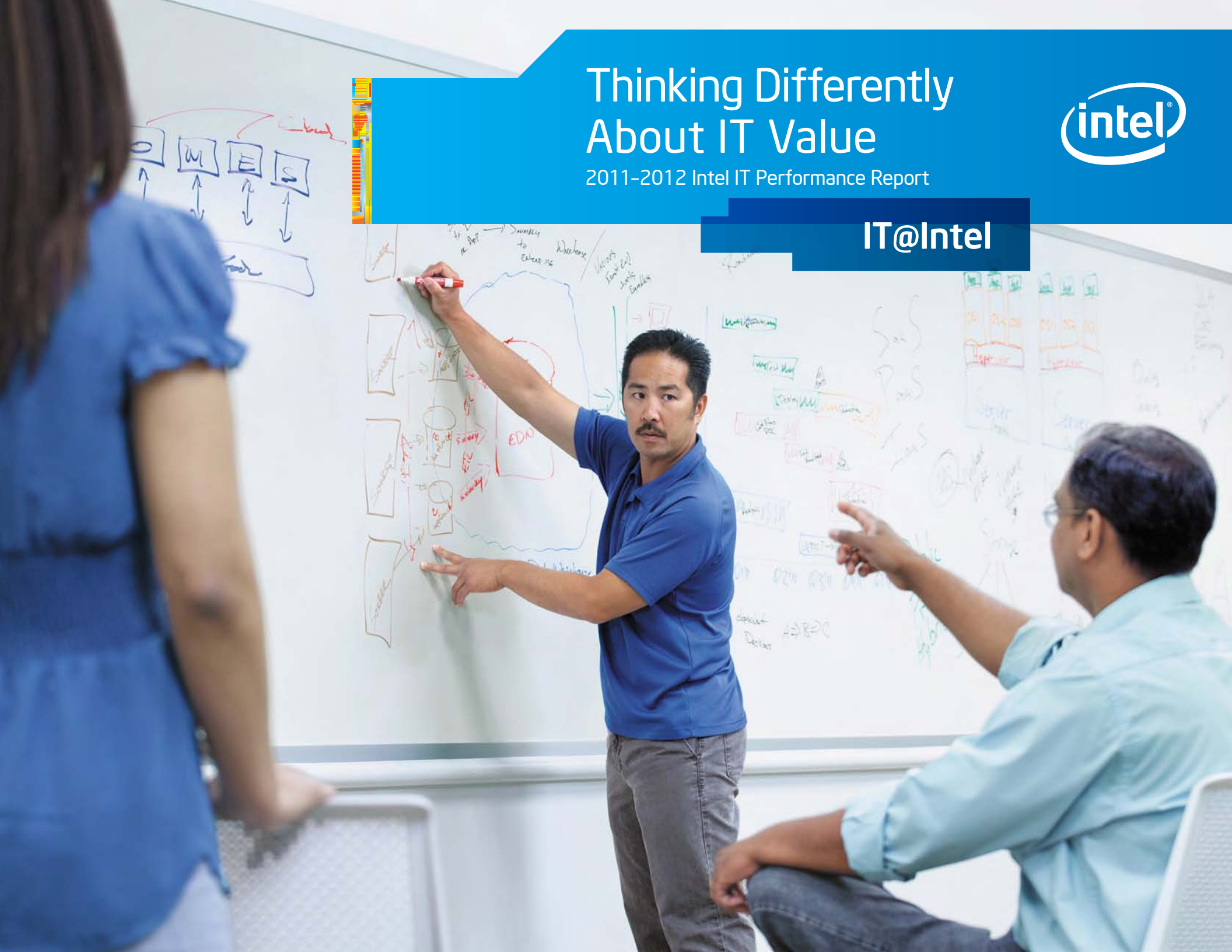

Thinking Differently About IT Value

2011–2012 Intel IT Performance Report

IT@Intel

WHO WE ARE

Intel IT
Employees: 6,400
Global IT Sites: 54

Intel
Employees: 91,500[1]
Intel Sites: 164 in 62 Countries

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Cover:
Eric Gee, IT Engineering Manager;
Jerlin Hurtado, Technical Project Manager;
Senthil K. Govindaswamy, Senior Systems Programmer

Our IT Environment

80%
New business services delivered through our enterprise private cloud

58%
Handheld devices in the enterprise that are personally owned

30%
Reduction in malware incidents despite a 50% increase in malware detections

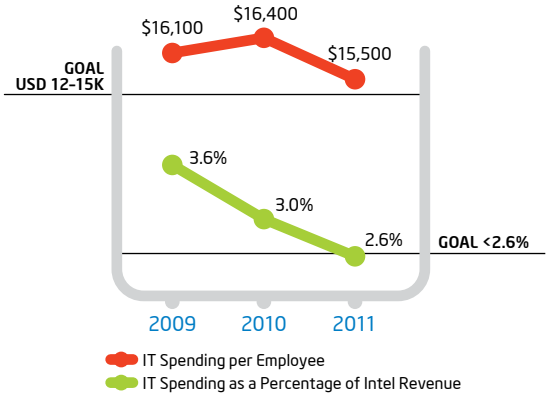
22%
Increased speed of product demand forecasting through business intelligence and IT automation

Data Center Environment		2009	2010	2011
Number of Data Centers		95	91	87
Data Center Square Footage *(Square feet)*		443,000	459,000	445,000
Storage Capacity *(Petabytes)*		18.6	24.9	38.2
Network Bandwidth *(Gigabits per second)*[2]		3.0	4.8	6.2
Compute Capacity for Silicon Design *(Growth from 2008)*		24%	84%	159%

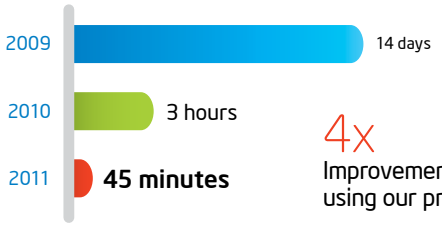
Client Environment		2009	2010	2011
Laptops with Solid-state Drives		8%	63%	89%
Laptops with Disk Encryption		65%	83%	90%
Handheld Devices In the Enterprise	*Total*	10,000	19,400	29,000
	Personally owned	0%	44%	58%

Sustainability	2009	2010	2011
IT Carbon Dioxide Footprint *(Metric tons)*	253,000	249,000	246,000
Savings from Travel Avoidance Due to Videoconferencing *(Millions of U.S. dollars)*	14	27	73

IT Spending[3]

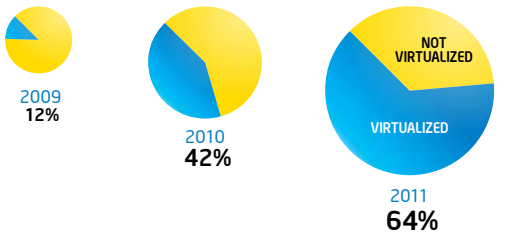


Average Time to Deploy Infrastructure Services



4x
Improvement from 2010 using our private cloud

Virtualization[4]



52%
Increase from 2010

Note: Some 2011 data estimated at time of publishing.
[1] Total employee count does not include wholly owned subsidiaries that Intel IT does not directly support.
[2] Internet bandwidth as a representation of overall Intel network traffic.
[3] IT spending history restated from prior IT performance reports to include all of Intel IT, including IT Factory Automation.
[4] Percentage of applications virtualized in our Office and Enterprise environment.

Thinking Differently to Stay Ahead of the Business

The increasing speed of business and the abundance of technology options have dramatically changed today's IT environment. As IT professionals, we need to think differently about how we engage with business leaders and deliver IT solutions. The interdependence between business success and IT is undeniable: IT enables the business, delivering scale, agility, efficiency, and productivity. It is imperative that IT organizations and business groups foster strong strategic alignment and operate in tight partnership—now more than ever.

Expectations from our business partners continue to evolve. They want on-demand solutions, challenging IT to innovate one step ahead. They also demand customization—IT solutions tailored to specific business processes and user communities. And as the workforce becomes more technically savvy, they expect that IT solutions should be more intuitive and capable of self-service.

The pace of innovation in IT is exciting and intense. In 2011, Intel IT made significant progress on three key multi-year initiatives. Our enterprise private cloud environment is now deployed across data centers worldwide and is delivering new business services in a matter of minutes. Embracing IT consumerization lets many employees bring their own devices to work, accessing corporate content securely and cost-effectively. Through the transformation of our enterprise security architecture, we enable a wide range of devices and application delivery models while protecting Intel's critical assets.

With strong momentum behind these three initiatives, we launched a fourth strategic initiative to expedite decision making through business intelligence (BI) and advanced analytic solutions. We challenged the team to demonstrate the value of custom BI solutions through the power of "5 +6 = 10." They have proven that a small team of five people skilled in BI can deliver, in just six months, up to USD 10 million in return.

At Intel IT, we believe in the power of IT to transform business. With this 11th edition of the Intel IT Performance Report, I invite you inside Intel's IT organization, where you can explore the strategies and actions that have created business value for Intel. It's an exciting time to be in IT!

Diane Bryant
Intel Vice President and Chief Information Officer

Business Efficiency

Boosting the Velocity of Intel's Business

Intel IT is delivering self-service IT capabilities and business intelligence (BI) tools. The goal is to empower employees and business groups to act quickly and streamline business processes across the organization—from product design to manufacturing to purchasing.

"We continue to focus on responding faster to ever-changing demand, shortening the time it takes to respond to customers' requests and deliver products. In 2011, our efforts resulted in 10-percent faster order fulfillment."

— Dan Mckeon, IT General Manager of Supply Chain Capabilities

Applying Business Intelligence

As the velocity and complexity of Intel's business increase, Intel IT has identified exciting opportunities where BI capabilities can lead to significant business value. To help employees analyze information more quickly, we are delivering advanced BI solutions across Intel and creating reusable predictive models for areas such as silicon design, manufacturing, security, and purchasing. These advanced analytic tools are designed to enable employees to perform "what-if" analyses and make decisions based on data from a variety of internal and external sources. We also challenged our BI team to demonstrate the value of these tools, and they have proven that five people who are skilled in BI can deliver, in just six months, up to USD 10 million in value.

Accelerating Intel® Product Development

As product cycles accelerate and Intel® products grow in number, enabling the rapid development of essential firmware and other software products becomes increasingly critical—and challenging.

In 2011, Intel IT provided a standardized development environment to help engineers deliver software more efficiently and to shorten overall time to market. The environment supports more than 1,500 engineers, who reported time savings of between 5 percent and 12 percent in 2011. We also completed an internal software-as-a-service (SaaS) pilot in our enterprise private cloud that allows engineers to provision their development environment and tools in just minutes.

Forecasting Product Demand

Accurately forecasting customer demand for Intel products is critical to running our factories efficiently and delivering the right products at the right time. We developed a system that increases supply planning accuracy by using BI capabilities to analyze customer requests against historical data and then automates the forecasting process. This accelerated the demand forecasting process by 22 percent and increased team productivity by 30 percent in 2011. The system helps Intel adjust production more quickly in response to demand fluctuations and minimizes inventory.

2011 Business Intelligence Initiatives

Manufacturing Problem Detection Analytics

Detects deviations in the manufacturing process, helping factories to improve yield and prevent costly, high-volume mistakes.

Design Computing Predictive Engine

Predicts how long silicon design jobs will run and which are likely to fail, enabling intervention and optimization of compute capacity. Estimated USD 7 million cost avoidance in 2011.

Security Dashboard

Integrates malware data from multiple sources into a dashboard, boosting our ability to intervene quickly by providing precise information about infected clients and servers.

Customer Relationship Management

Enables sales people to mine large data sets of customer leads to identify the most promising prospects.

Streamlining Purchasing

Intel processes nearly 400,000 purchase orders (POs) each year. We implemented a new solution that helps Purchasing complete POs three times more quickly than before—from three days to one. The solution integrates information from eight systems so agents now interact with a single application to complete the entire task, increasing speed and reducing the potential for data-entry errors.

We also developed a solution that automates taking advantage of prompt payment discounts when purchasing capital equipment, securing 93 percent of possible discounts and saving USD 8.5 million in 2011.

Facilitating Imports and Exports

To help drive global business efficiency, we are delivering systems to automate cross-border transactions. We delivered a web-based invoicing system in China, reducing problematic invoices by 90 percent. We also automated shipping and payment tracking capabilities to facilitate compliance with local regulations and improve on-time payments. We pioneered the first electronic customs solution used in Vietnam, enabling faster communication with Vietnam's customs agency and 24x7 approval for imports and exports.

See more online at:
www.intel.com/go/ITAnnualReport

Empowering Business Groups with Self-Service IT

Intel IT provides a growing range of on-demand self-service IT capabilities. This enables business groups to customize their own solutions and frees IT to focus on developing more advanced capabilities rather than supporting routine requests. These solutions include:

- **Infrastructure as a service (IaaS).** Application owners can automatically provision their own computing capacity in as little as 45 minutes using a self-service portal.
- **Business intelligence.** These reporting and analysis solutions give employees better access to information to run "what-if" scenarios and make decisions more quickly.
- **IT Service Desk.** To enable a self-support model and reduce support calls, we provide online access to diagnostic tools, community-based social media forums, and answers to frequently asked questions.
- **Web content publishing.** Allowing marketing groups to self-publish reduces cost and the time it takes to post new content while maintaining brand consistency.

Matt Ammann,
Data Center Network Engineer

Business Growth

Expanding Intel's Business through IT

Intel IT partners with internal business groups to define strategies and drive solutions that fuel Intel's growth. We jointly define and create systems that help Intel launch new products and services, expand online sales and marketing capabilities, and integrate corporate acquisitions.

Charles Goodwin, Director, IT Customer Capability;
Teresa Morley, IT Operations and Services Program Manager

Supporting New Business Services

As Intel's business groups introduce new services for consumers and business customers, Intel IT plays a key role by providing capabilities that underpin these new services, as well as scalable, on-demand hosting capacity.

Intel's online applications store, the Intel AppUp℠ center, plays a vital role in this new services model. Intel IT provides hosting capabilities for a core function of Intel AppUp services and must respond quickly to spikes in consumer demand. We doubled hosting capacity within two weeks to support a sales promotion of the massively popular *Angry Birds** game targeted for Intel®-based netbooks and tablets—enabling a more than 20x increase in purchases. Our next step is to use the rapid provisioning capabilities of our enterprise private cloud to scale even faster.

Intel launched a new small-business service called the Intel® Hybrid Cloud program to provide remotely managed onsite servers and third-party software on a pay-as-you-go basis. Working with the business group responsible for the service, Intel IT created a usage-based billing system in three months—almost six months faster than originally estimated. The system automates the complex tasks of tracking and sharing revenue and generates billing reports for the managed service providers who directly deliver the service to customers. This scalable solution reduced monthly billing effort from a week to a few hours, increased accuracy, and provided flexibility to support future growth.

Enabling Secure External Collaboration

In fast-moving markets with highly customized products, such as embedded systems, collaboration and co-development are critical for success. Intel IT implemented a portal that supports secure intellectual property sharing and efficient product design collaboration between Intel, customers, and suppliers worldwide—helping to increase design productivity and facilitate Intel's growth.

Scaling Web Solutions for Intel's Sales and Marketing Group

People increasingly turn to the Web to research products, ask questions, and make purchases. To better align Intel's business model with these expectations, we partnered with Intel's worldwide sales organization to develop a broad range of online sales and marketing capabilities that manage customer relationships in fresh new ways.

New features of Intel's redesigned web site include a software platform that empowers marketing groups to manage and publish their own content—reducing the time it takes to post content from days to just minutes while maintaining brand consistency. We delivered this new customer-facing web site in the United States in just six months and have since extended it to other countries.

We also collaborated with Intel's sales organization to develop Online Sales Centers. These Centers augment the ability of Intel's sales force to reach and support a growing number of Intel customers, and provide new ways for customers to collaborate with Intel. They can find answers to product design questions, access support forums, and engage in video chats with Intel design engineers. The Online Sales Centers produced considerable value for Intel in 2011, attracting 2.4 million unique visitors, more than 100,000 new prospects, and 8,000 sales leads.

Integrating New Acquisitions

Using several different IT integration models, Intel IT successfully integrated 12 acquisitions, which involved adding more than 10,000 new employees in 2011. For example, McAfee operates as a wholly owned subsidiary, while Infineon Technologies AG Wireless Solutions is fully integrated into Intel.

Supporting this diversity requires greater application flexibility. Our recently completed enterprise resource planning (ERP) replatform enabled us to rapidly implement customized business solutions for each acquisition, helping to smooth integration while leaving the unique value of each acquired company intact. Additionally, acquired companies take advantage of Intel contract pricing; one acquisition realized nearly USD 6 million in savings the first year.

See more online at:
www.intel.com/go/ITAnnualReport

Andrew Lowd, Software Design Lead

Empowering Employees with IT Consumerization

Consumer devices and technologies continue to shape employees' expectations about work and collaboration. At Intel, we embrace the consumerization of IT. We expanded our successful bring-your-own (BYO) device program as well as social media and videoconferencing solutions. We are also transforming our application delivery model to deliver a compute continuum that gives employees seamless, secure access to corporate and personal applications and services across a broad range of devices.

Boosting Productivity with a Bring-Your-Own Device Program

In 2010 we began providing secure access to Intel e-mail, contacts, and calendars from personal smart phones and tablets, enabling employees to use these as companion devices to their corporate mobile business PCs.

We have seen an extraordinary response. By the end of 2011, about 17,000 employees were using personal smart phones while 12,000 were using corporate-owned smart phones. Seamless communication with teams and customers from home or on the road helps employees save an estimated 47 minutes per day—an annual productivity gain of 2 million hours across Intel.

Our BYO program continues to encompass a broader range of devices. In 2011, some employees began using their personal Apple computers. On Macs*, we use partitioning to separate personal and corporate data securely, and implement a virtualized environment on each system to support application compatibility. In 2012, using the same approach, employees will be able to bring their own PCs to work.

Developing Mobile Applications to Improve the User Experience

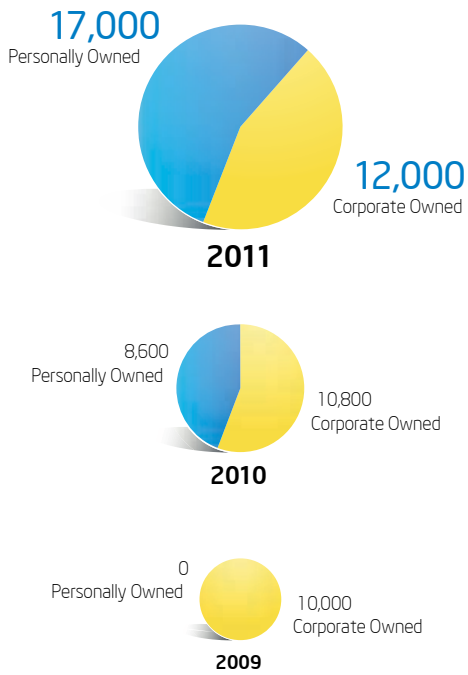
With one in every four employees using smart phones, we realize the need to empower employees by providing a broader set of business applications specifically designed to work well on devices with small screens and limited features. Seven applications are already in production, including instant messaging, conference room reservation, and audio conference speed dialing, and about 28 applications are in the development pipeline.

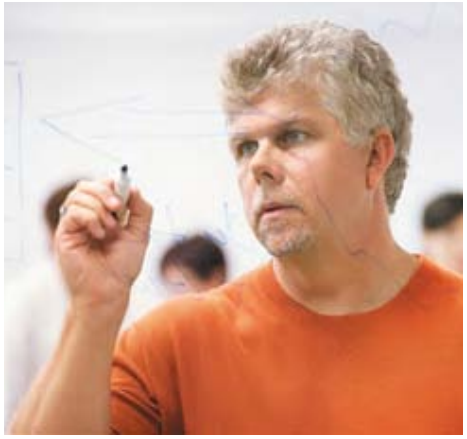
Evolving Enterprise Social Computing

Intel IT embraced social media within the enterprise in 2005, deploying basic internal capabilities such as forums and blogs. Initially, employees used these standalone tools to connect socially rather than for core business functions.

Since then, our use of social media has evolved to include more enterprise-focused tools. In turn, we have integrated these tools into line-of-business applications so that teams can collaborate to achieve project and business goals. We integrated an existing Intel-wide social media platform into Intel's primary employee portal and introduced two new enterprise capabilities: secure wikis and enterprise RSS feeds. In addition, we are piloting an enterprise video portal so employees can easily share and collaborate on video content.

Handheld Devices at Intel





USD73M Travel expenses avoided through the use of videoconferencing

We also deploy social media solutions tailored for specific business groups. Silicon design engineering teams around the world adopted secure internal collaboration, simplifying real-time sharing of confidential project information across geographically dispersed teams.

As a result of these initiatives, most employees see social media as a core business tool.

Expanding Use of Videoconferencing

At Intel, videoconferencing has proven a very successful tool for facilitating collaboration among global teams—improving productivity while reducing travel costs. On average, IT supports more than 600 videoconferences per week. We estimate this saved employees 435,000 travel hours in 2011, more than doubling the hours saved from the previous year and avoiding more than USD 73 million in travel expenses. The reduction in travel also contributed to Intel's sustainability goals by avoiding more than 65,000 metric tons of carbon dioxide emissions.

During 2011, we nearly doubled the number of meeting rooms with videoconferencing capabilities and introduced new rooms in 12 additional countries. We also provided easy-to-use videoconferencing tools that run on employees' mobile business PCs, enabling them to connect with colleagues around the world from their desks or from remote locations.

PC Deployment

To enhance productivity and maintain low total cost of ownership (TCO), we continue to refresh employees' PCs on a regular cadence, providing them with high-performing mobile business PCs based on Intel® processors with Intel® vPro™ technology. In 2011, we completed our transition to Microsoft Windows 7*. We also deployed Intel® Solid-State Drives (Intel® SSDs) across the Intel IT environment. All new PCs for employees now include Intel SSDs. Internal tests show that Intel SSDs offer four times faster performance and lower TCO compared to hard disk drives.

Motivated by the rapid growth of Intel employees in 2011, we streamlined the process for providing PCs to new employees. Employees now collect a pre-configured PC in a 90-second handover, rather than attending a 90-minute introductory class where they configure it themselves.

At the end of 2011, we began piloting Ultrabook™ devices—thin, ultra-lightweight, portable PCs with extended battery life that we expect will provide new levels of performance and responsiveness. We plan initial deployments in the first half of 2012.

See more online at:
www.intel.com/go/ITAnnualReport

Left Top: Jerlin Hurtado, Technical Project Manager; Senthil K. Govindaswamy, Senior Systems Programmer
Left Middle: Matt Ammann, Data Center Network Engineer; Chris Gammon, Systems Analyst; Jodi Leonardi, Technical Program Manager; Andrew Lowd, Software Design Lead
Left Bottom: Ed Jimison, Client Technology Evangelist

Toward the Compute Continuum

To further boost mobility and productivity, Intel IT established a multi-year program to deliver Intel's vision of the compute continuum. Our goal is to provide employees with seamless, secure access to corporate and personal applications and services across a broad range of personal and corporate devices. We are defining enterprise architecture and the building blocks necessary to make the compute continuum a standard platform for IT services.

In 2011, Intel IT began partnering with Intel product and software groups to help develop enterprise products that support the compute continuum. Intel IT contributed by defining compelling usage models and by running internal production pilots to provide real-world data.

Jerlin Hurtado, Technical Project Manager

Charlyn Villegas, Customer Capability and Productivity Video Producer

Focusing on Ergonomics

For many companies, healthcare costs represent one of the fastest growing business expenses. Ergonomics-related injuries, including cumulative trauma disorders (CTDs), now account for the majority of recordable injuries across Intel.[1]

Intel IT offers ergonomics software that reminds employees to take breaks and provides them with information and tips about their CTD risk levels. We also provide speech-recognition software that enables employees to reduce keyboard usage.

In addition to keeping employees healthier and happier, these efforts increase productivity across Intel. Within IT, we've seen a 78-percent reduction in the number of days lost due to ergonomics-related injuries since 2009.

[1] Intel internal injury database, 2011.

Enterprise Security

Protecting to Enable the Business

The mission of Intel IT's security organization shifted to a strategy we call "Protect to Enable." We apply a reasonable level of protection that enables information to flow through the business. In 2011, we demonstrated how our innovative new security architecture enhances business flexibility and accelerates adoption of new technologies while offering increased protection.

Transforming Security

We began a radical five-year redesign of our security architecture in 2010. We started with the implicit assumption that unforeseeable compromise is inevitable in information technology. Understanding this, our new model greatly increases flexibility and focuses on survivability. In 2011, we made significant progress in implementing this architecture, which is based on four pillars:

- **Identity and access management.** We reached a key milestone by successfully testing our unique integrated trust calculation technology. This enabled us to embrace consumerization, including supporting devices with differing levels of security. The system dynamically adjusts users' access privileges as their level of risk changes. For example, employees have less access to corporate information from personal smart phones than from corporate laptops. We tested this capability in our innovation labs across a broad range of devices, locations, and infrastructure technologies. Our next steps include an enterprise pilot in 2012, in preparation for enterprise-wide deployment.
- **Security business intelligence.** As we allow access to enterprise services from more devices, we need improved detection, monitoring, and analysis capabilities. We deployed a dashboard that provides detailed information about infected clients and servers, boosting our ability to intervene quickly and accurately. We also plan to add a predictive engine that will help improve our ability to respond to threats.
- **Data protection.** We are implementing technologies that protect data when it is created, stored, and in transit. We expanded deployment of enterprise rights management software to nearly 20,000 employees, and we implemented data loss prevention technology to better track sensitive data as it moves through Intel.
- **Infrastructure.** We implemented secure trust zones within our enterprise private cloud that enable us to virtualize internally and externally facing applications with higher security requirements. This removed a key barrier to achieving our goal of virtualizing 75 percent of our enterprise environment.

  We continue to evolve our infrastructure, detecting malware to minimize outbreaks and reduce active infections. As a result, we reduced malware incidents by 30 percent, despite a 50 percent increase in the number of malware detections in 2011.

Strengthening Legal Compliance

In 2011, we applied technology to speed the eDiscovery life cycle—enabling us to produce electronically stored information in a more timely fashion. We also saved USD 3.6 million by avoiding the cost of outsourcing eDiscovery to external suppliers.

Partnering to Improve Security

Sharing security solutions and best practices is critical to improving security industry-wide. Intel IT partnered with Intel product groups and other peer technology companies to establish the Industry Consortium for Advancement of Security on the Internet (ICASI), an industry forum for addressing enterprise security threats. In 2011, ICASI published the Common Vulnerability Reporting Framework, allowing companies to share critical security-related information and respond more quickly to new threats.

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Security Benchmarking

To test the effectiveness of our security efforts and identify areas for improvement, Intel IT participates in independent benchmarks performed by the Information Risk Executive Council.

Over the last five years, Intel employees have consistently ranked in the top 10 percent of companies for secure behavior.[1] Intel ranks higher, on average, than peer companies in areas such as compliance assurance, intellectual property protection, customer data protection, business continuity, and reputation protection.[2]

Because there is always room for improvement, we provide ongoing training to employees on how to protect both corporate and personal information.

[1] Information Security Awareness Benchmark Summary. Information Risk Executive Council, 2007-2011.

[2] Security Controls Maturity Benchmark Summary. Information Risk Executive Council, 2011.

Franklin Nguyen, Data Center Manager

Data Centers

Delivering Agility through Our Private Cloud

Senthil K. Govindaswamy, Senior Systems Programmer

CIO 100 HONOREE 2011

Intel IT's Self-Service Portal Garners Industry Recognition

Intel IT received a 2011 CIO 100 award for implementing an on-demand self-service portal for our enterprise private cloud that delivers measurable results for our business partners. The CIO 100 awards honor organizations that use IT innovation to create business value and competitive advantage.

We are rapidly moving production applications to our enterprise private cloud. Today, 80 percent of new services are deployed within the cloud, using self-service provisioning to quickly deliver solutions. To achieve even higher levels of agility and efficiency, we created a roadmap to public-private (hybrid) clouds, and we embarked on a bold data center strategy to further reduce cost and spur new innovations.

Running Intel's Business in the Cloud

In 2011, we continued to make rapid progress in transitioning to our enterprise private cloud. We focused on virtualizing more demanding applications, including Internet-facing and mission-critical applications with higher security requirements, and migrating them to the private cloud. Sixty-four percent of our Office and Enterprise environment is virtualized, and we are on track to reach our target of 75 percent.

Building on a foundation of virtualized infrastructure, we dramatically decreased the time it takes to acquire new capacity using self-service provisioning and extensive automation. Self-service is now the norm: Most new services are now delivered within 45 minutes in our private cloud. In contrast, just two years ago, server provisioning in the traditional IT environment typically took as long as 90 days.

Expanding Cloud Usages at Intel

We are now extending the value of the private cloud to more groups and more usages across Intel.

- To enable Intel's services businesses to meet unpredictable spikes in demand, we increased flexibility by deploying a rapid, elastic infrastructure-as-a-service (IaaS) scaling solution to support externally facing Internet applications.
- We embarked on a platform-as-a-service (PaaS) program to bring hosted on-demand development environments to our internal software developers. Our goal is to enable them to turn innovative ideas into production services in less than a day.
- We completed a software-as-a-service (SaaS) proof of concept that provides Intel software engineers with on-demand access to an end-to-end solution for application life cycle management.

A Roadmap to Hybrid Clouds

To further increase scalability, cost efficiency, and service resiliency, we established a technology roadmap for the use of hybrid clouds. In 2011, we began sharing capacity across multiple resource pools inside a data center; in 2012, we plan to share capacity across all 13 private cloud data centers and then expand to hybrid use of secure external clouds.

In order to create an interoperable private and hybrid cloud environment, we believe that open industry standards and software are required. In 2011, we began running and testing our first completely open-source cloud environment. Our goal is to determine where open solutions can augment our existing cloud capabilities—enabling us to move toward our cloud vision at an even faster pace.

Transforming Our Data Centers

In 2011, we launched a new data center strategy to help us deliver world-class data center services at lower cost. We use this strategy to identify groundbreaking innovations.

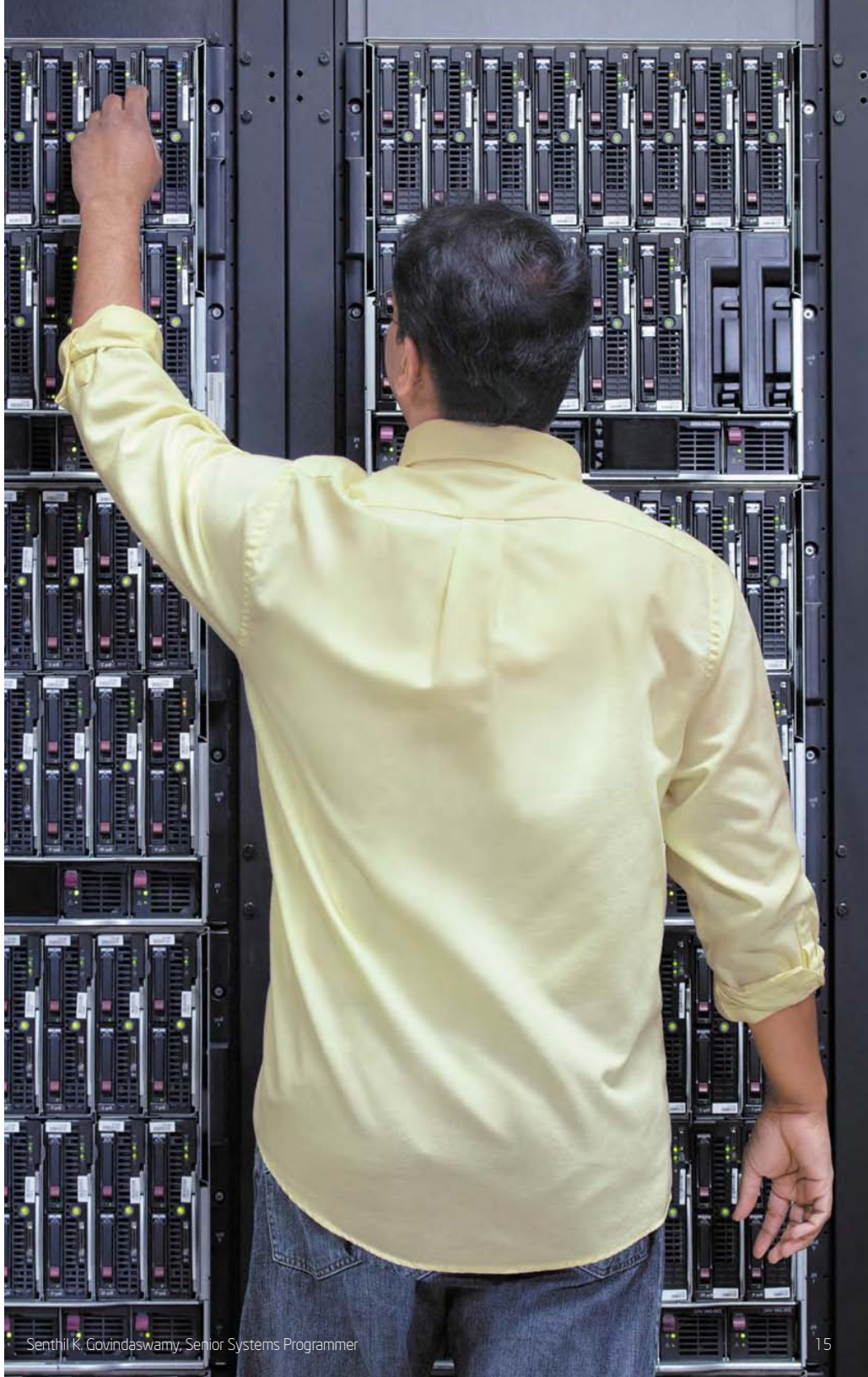
At the heart of our strategy is a decision making model we call "Model of Record," which is based on a methodology developed and successfully applied across Intel's manufacturing environment. We benchmark each of our 87 data centers against a best achievable model that ignores constraints in our current environment.

By analyzing the gaps between the current environment and the Model of Record, we pinpoint areas for improvement and identify new technologies that we can use to increase velocity, quality, and efficiency while delivering the greatest return on investment.

- Since 2008, we've reduced the total number of data centers we operate globally by 26 percent. Using our new data center strategy, we've identified the opportunity to reduce the number of Intel data centers by another 35 percent.
- We are on track to improve design unit cost efficiency by 29 percent in 2011 through investments such as four-year server refresh, storage optimization, and deployment of a customized software algorithm to optimize grid performance.
- We began shifting from rack-mount to blade servers within our enterprise private cloud to reduce hardware total cost of ownership by approximately 29 percent.

We also established a new set of key performance indicators and adopted a new unit-costing model to set challenging goals for continuous improvement. These goals include 80-percent effective resource utilization across our environment, a 10-percent annual improvement in cost efficiency, and meeting a tiered service-level agreement model.

See more online at:
www.intel.com/go/ITAnnualReport



Senthil K. Govindaswamy, Senior Systems Programmer

Data Center Sustainability

Intel IT's continued focus on sustainability enables our data centers to accommodate compute growth without increasing energy consumption or our physical footprint.

In 2011, we ranked in IDG's InfoWorld Green 15 Awards for our innovative NUMA Booster algorithm. Deployed on Intel® Xeon® processor-based servers, this algorithm accelerates jobs by up to 17 percent, helping to avoid the addition of incremental server capacity and to decrease energy consumption.

For the second year in a row, Intel was selected as one of Computerworld's Top 12 Green-IT organizations. This list recognizes organizations committed to using technology to conserve energy and lower carbon dioxide emissions. Over the last two years, Intel IT has achieved nearly 100 million kilowatt-hours in energy savings.

IT Efficiency

Achieving Operational Excellence

To deliver improved services while freeing up resources to invest in new business capabilities, we focus on efficiency and operational excellence. We do this through metrics-based management, business process improvement, automation, and proactive data center investments.

Measuring IT Operations

To measure progress and gauge the success of our efforts to achieve continuous improvement in operations, we use a framework based on four performance vectors: quality, velocity, efficiency, and capacity. While velocity is not a typical indicator, we determined it is critical to Intel's business. We often find that we can optimize results across all four vectors without making tradeoffs. For example, the development of our private cloud has realized a net savings of USD 9 million in efficiency while improving the velocity of new service delivery.

Service Management and Transformation

To excel at managing, maintaining, and quickly restoring services, we are implementing a customer-focused approach to supporting end-to-end services based on the IT Infrastructure Library (ITIL*). This transformation is a major undertaking that involves optimizing and automating a broad range of support processes. We moved approximately 60 percent of our service catalog to the new model, and our plan is to complete the transformation in 2012. Results thus far include:

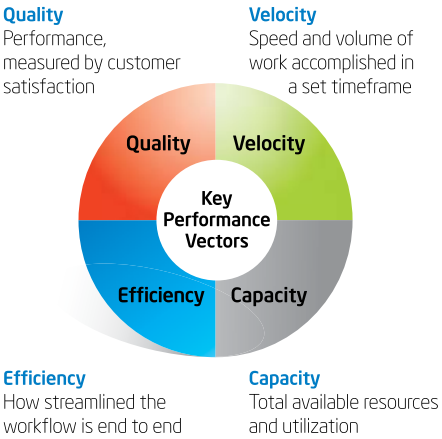
- **E-mail and messaging.** A 60-percent reduction in major incidents impacting e-mail and messaging services and a 39-percent reduction in Service Desk ticket volumes overall—while adding more than 10,000 new employees in 2011.
- **Wide area network.** Up to 70-percent reduction in major incidents while accommodating 50-percent annual growth in traffic.
- **Small form factor.** A 32-percent reduction in mean time to resolve smart phone incidents through real-time tracking of performance to service-level agreements.
- **Enterprise network connectivity.** A 75-percent reduction in service request rework through workflow automation and standardization while accommodating 20-percent annual growth in request volume.

Championing Business Process Improvement

For several years, Intel IT has championed the Lean Six Sigma* (LSS) approach to increase efficiency inside IT and across Intel's enterprise. By providing training, mentorship, and process improvement leadership, our organization serves as a business process expert, applying technology-based solutions and process automation to positively impact business results.

In 2011, using LSS resulted in savings of USD 24 million within Intel IT. For example, we increased the efficiency of our network-attached storage (NAS) file servers by consolidating forecasting across multiple business groups and doubling NAS server utilization rates to 54 percent at targeted sites. This resulted in USD 1.1 million in cost avoidance. Using LSS also resulted in a much larger savings of approximately USD 883 million across Intel—from product development to manufacturing.

Intel IT Operational Framework



Top IT Efficiency Projects of 2011

Service Quality

37% reduction in total major incidents affecting availability of all IT services

Private Cloud

USD 6M savings in 2011 and a total of USD 9M net savings to date from efficiencies gained through our private cloud

Design Grid Optimization

USD 19.9M savings from shared software emulators, predictive business intelligence, and our NUMA Booster algorithm

Storage Optimization

USD 9.2M savings from thin provisioning as well as storage tiering and reclamation technologies

New PC Delivery

90-second delivery of laptops to new employees—a decrease from 90 minutes

"I've worked at Intel for more than 10 years. This is the first time my business counterparts and I were rendered speechless by the speed of IT service. We were amazed to see the server we requested was built and ready almost immediately."

—Shashi Chagam, Supply Network Capability Program Manager, Intel IT

To stimulate a culture shift within IT and drive further efficiencies, we launched a "Bureaucracy Busting" program. The program includes a reward system to encourage IT employees to generate and implement new improvement ideas. Within six months, we completed 21 projects, delivering 56,000 hours in productivity gains and savings of USD 550,000 inside IT.

Data Center Efficiencies

To maximize asset utilization across our data center environment, we continue to apply the same strategies that enabled us to meet soaring storage, compute and network demand with fewer servers and data centers.

- With 64 percent of our Office and Enterprise environment virtualized, we are achieving average server consolidation ratios of up to 20:1 and have achieved a net savings of USD 9 million to date. We anticipate additional net savings of approximately USD 6 million per year over the next four years.
- We manage about 38.2 petabytes of raw primary storage capacity. By aggressively deploying new Intel® Xeon® processor-based file servers and implementing technologies such as thin provisioning, tiering, and reclaim, we have achieved capital savings of USD 9.2 million.
- By refreshing servers every four years, we have accommodated 45-percent annual growth in compute demand while reducing the number of servers in our environment from 100,000 to 75,000.
- We upgraded to 10 gigabit Ethernet across our environment, which requires fewer LAN ports and accommodates traffic growth without investment in additional network capacity.

See more online at:
www.intel.com/go/ITAnnualReport

Improving Operations through the Intel IT Data Center Dashboard

We developed a holistic data center operations dashboard that provides a unified view of data center health metrics. The dashboard delivers on-demand reports by polling more than 192 million data records across our worldwide data center environment. These real-time reports provide information about velocity, cost, quality, and resource utilization including network, storage, servers, and facilities.

Similar to the business intelligence dashboard used to monitor Intel's manufacturing environment, the Intel IT Data Center Dashboard will help us track our key performance indicators and make informed decisions about our data centers.

Franklin Nguyen, Data Center Manager

Leadership and Management

Moving IT Out in Front

Abundant technology options and accelerating business demands contribute to a dramatically different and exhilarating IT environment. To help our teams get in front of the business and strengthen partnerships with business groups, we actively develop both the technical and business skills of our employees to support Intel's evolving business.

Strengthening Our Strategic Partnerships

To foster tight alignment, we partner an IT senior leader with each line of business at Intel. Each leader holds formal meetings to understand business strategy, help define solutions, and identify shared goals—such as increasing supply chain responsiveness or creating online sales capabilities. This strategic relationship results in actionable priorities for which we are mutually accountable and enables us to provide solutions that deliver greater competitive business value.

Intel product groups also seek our expertise as an enterprise IT organization to help evaluate new Intel® platforms and define specific features for inclusion in future products, such as security and manageability capabilities.

Measuring Customer Satisfaction

As part of our ongoing improvement process, we survey our customers annually to determine areas where we can strengthen our partnerships. In its ninth year, our IT Partnership Excellence Program asks for honest assessments of IT's strategic alignment and tactical performance from senior business group representatives. Our Voice of the User survey measures employee satisfaction with IT products and services, and helps to identify areas most important to employees. In 2011, satisfaction rose overall, with the biggest increases in the areas of videoconferencing, collaboration, and business intelligence solutions.

Transforming our Workforce

To equip Intel IT with the right skills to support Intel's changing business and meet future technology needs, we are transforming our workforce by building technical and business acumen as well as leadership skills. In 2011, we launched a new web site for the "Navigating Your Career" program, making it easier for IT employees at all levels to access a broader range of career development resources.

To cultivate deep technical expertise, Intel IT continues to emphasize the Intel Principal Engineer Program, a technical career path designed to recognize, reward, and retain the company's top technical talent. The number of principal engineers within Intel IT has grown steadily, doubling over the last two years. Today, most of these engineers work primarily on IT infrastructure, reflecting the traditional focus of IT. As IT continues to change, we have included a focus on software and solutions in this program.

Intel uses hiring practices and job rotation to build business acumen. Working with Intel's human resources group, Intel IT developed a tool that shares job rotation opportunities across Intel. This encourages Intel IT employees to expand their business experience by taking positions within other Intel groups and encourages business leaders to seek opportunities inside IT.

IT Strategic Planning

Our annual strategic planning process is tightly coupled with Intel's business planning cycle in order to align IT investment with business goals. By developing a three-year view of business needs and technology

Jodi Leonardi, Technical Program Manager; Alice Cruce, IT Customer Capability Program Manager

trends, we identify key areas where IT investment will help Intel successfully expand and transform the business. In 2011, we identified nine key focus areas, some of which include business intelligence, client computing and productivity, eCommerce capabilities, security and legal in a global environment, internal and external collaboration, and solutions to accelerate product development. For each focus area, we produce a three-year roadmap that delivers the IT capabilities necessary for our business partners to be successful.

Communicating the Value of IT

To forge stronger connections with Intel employees and help them innovate, Intel IT initiated a program to improve the awareness of the services and solutions we offer. We believe this will stimulate greater use of our services and therefore deliver greater value to Intel. Specifically, we've started to standardize our IT brand identity, driving visual consistency in our applications, newsletters, and service web sites. We also continue to focus on distributing relevant and timely information about IT services and solutions. We use multiple communication channels—from our refreshed Intel IT portal web page to newsletters to usage tips delivered as employees download specific software.

See more online at:
www.intel.com/go/ITAnnualReport

Emergence of the Service Owner Role

We are creating a new role and operating model within Intel IT to support our service management transformation—a major customer-focused initiative to deliver and support end-to-end IT services.

For each IT service, we assemble a virtual team responsible for delivering and managing all aspects of the service. Each virtual team is led by a service owner—a new role within our organization. The service owner must have broad knowledge and leadership skills to shape the service, coordinate team members, deliver results, and achieve continuous improvement. The service owner's virtual team includes employees from different groups within Intel IT, including architecture, engineering, operations, and finance, to create a matrix management model.

"IT was really put to the test in 2011 and excelled. They enabled more than 10,000 new employees, smoothly integrated 12 acquisitions and helped drive 25 percent higher revenue for Intel—all with a flat budget to 2010."

—Stacy Smith, Intel Chief Financial Officer

Teresa Morley, IT Operations and Services Program Manager

Ajay Chandramouly, IT Industry Engagement Manager

Moving Forward Together

2011 was an exciting year for Intel IT. We faced new expectations from the business as well as an abundance of new technology options. This compelled us to think differently about our organization and the business value we can deliver.

Self-service solutions, custom business intelligence tools, and secure access to services from personal devices are now imperatives for success. To provide solutions to these requirements, Intel IT is taking an active leadership role, driving bold IT innovation that creates higher business value.

At Intel, the quest for innovative solutions engages us in a constant brainstorm that comes to life through the real-time exchange of ideas, working with our business partners, our employees, and with you, our IT peers.

We are eager to learn from your experiences and challenges, and share ours as well. Join us at www.intel.com/IT to explore our IT best practices and engage with us.

For more Intel IT Best Practices, visit: www.intel.com/IT