



The Future of Enterprise IT

Enabling new, uses, trends & technologies

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March 2012

IT@Intel

THE TEN MOST HATED JOBS

#1 Director of Information Technology



Source: CNBC News, August 2011
http://www.cnbc.com/id/44038159/10_Most_Hated_Jobs?slide=11

IT Under Constant Pressure

Rate and Pace of Business is Increasing

IT Budgets are Flat to Slightly Down†

Increasing Requirements for On-demand,
Simplified Self-service, Custom Solutions from IT

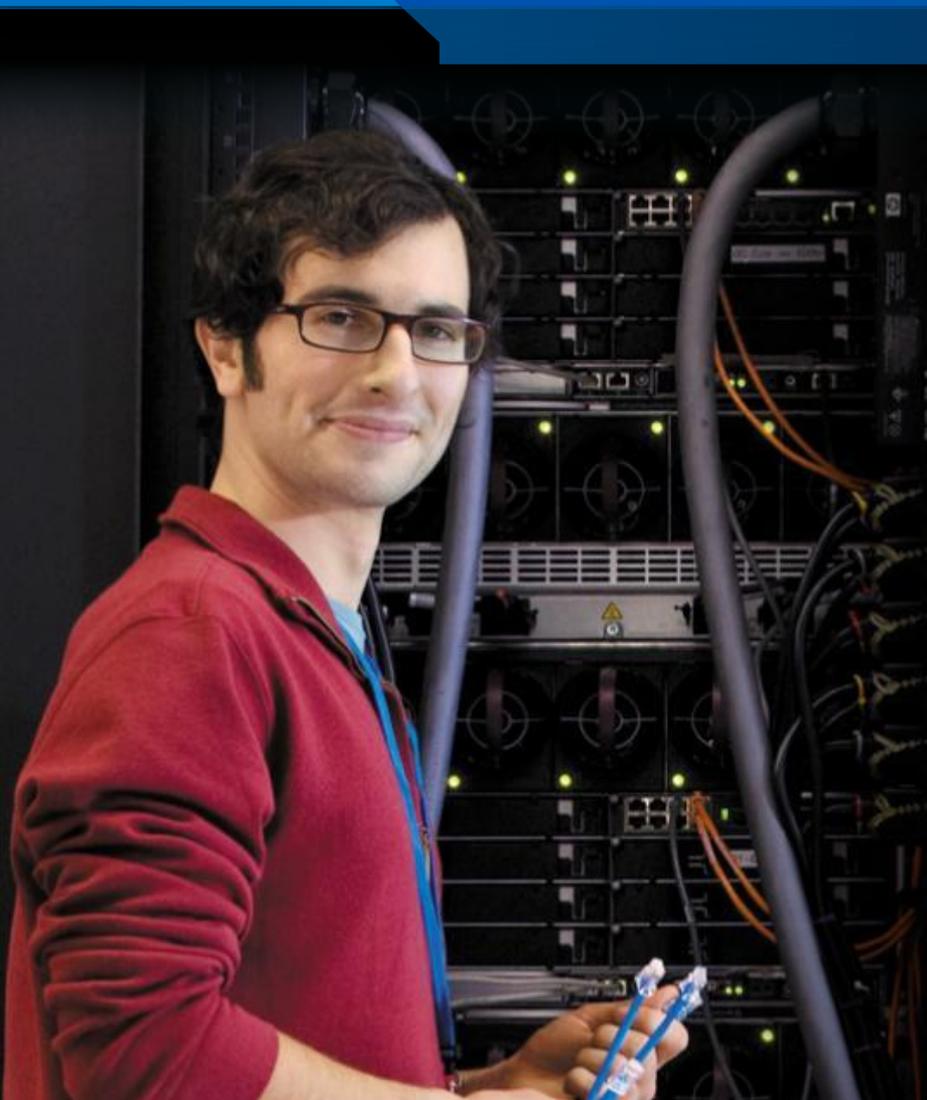
Intel Business Overview

- The world's largest semiconductor manufacturer
- Leading manufacturer of computer, networking, and communications products
- 164 facilities in 62 countries
- Over USD 54 billion in annual revenues from customers in over 120 countries
- 25 consecutive years of positive net income
- One of the top 10 most valuable brands in the world for 10 consecutive years



Intel's Mission: Delight our customers, employees, and shareholders by relentlessly delivering the platform and technology advancements that become essential in the way we work and live.

Intel IT Vital Statistics



6,400 IT Employees

54 global sites

91,500 Intel Employees[∞]

164 sites, 62 countries

87 Data Centers

~75,000 servers

>138,000 Devices

>109,000 PCs (80+% mobile)

29,000 handhelds



[∞] does not include wholly owned subsidiaries that Intel IT does not directly support
Source: Information provided by Intel IT as of Jan 2012.

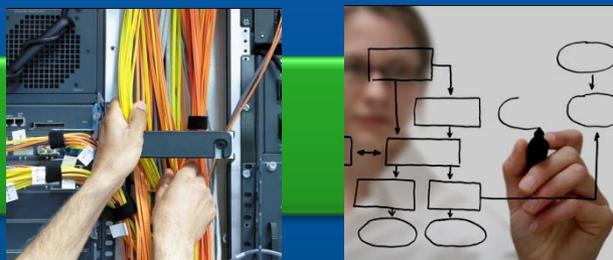
Intel IT Strategy

Through Our
People...



Build an
empowered &
passionate
team
connected to
our customers

We Deliver Operations
& Solutions...



Run a high quality,
responsive and
efficient IT operation
&
Deliver business
capabilities that drive
Intel's growth

And Share our
Experiences and
insights



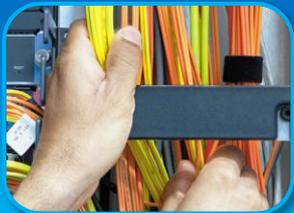
Engage with
industry peers to
advocate the
business of IT
&
Improve Intel's
solution offering

Intel IT's Focus Areas



IT Consumerization

Increased productivity with personal devices, seamless access



Cloud Computing

Supporting the increasing speed of the business



Enterprise Security

Protect to Enable



Business Intelligence

Deliver real-time insight to drive decisions

Consumerization



**End User Expectations Growing
Beyond Smartphones and Tablets**

Consumerization *n.*

The increasing influence that our technology experiences in our personal life, both hardware and applications, have on the technology that we expect to use at work.



Not just about the devices

Workforce change
Usage models
Software and hardware



Won't solve existing problems

Not a solution to a poorly managed environment
Doesn't automatically lower costs



It is all about the Experience!

Don't forget choice is at the center of Consumerization.

Industry Perspectives

75 percent of IT decision makers believe they have the staff and resources they need to manage the consumerization of IT.”

Source: Forbes Feb'12

“Consumerization was a joke, then a threat, now obvious.”

Source: Gartner

“The **crumbling of the 'business/personal' wall** in IT will accelerate as the economy and the "2.0" culture drive consumer and business technology together.”

Source: IDC Top 10 Predictions 2009

“Enterprise applications don't have to be overwrought, Instead, they should offer immediacy of features, ease of adoption, and a smooth user experience. In a nutshell, they "consumerize IT"

Source: CNET Jan'11

The use of iPads and Android smartphones for work tasks has obvious benefits to workers, but it's killing IT

Source CIO Magazine Sep'11

“These workers expect greater access in more places and on more devices. They will either work with or against IT to make it happen.

Source: Gartner Analyst

“While cloud computing gets a lot of media attention, consumerization of IT registers the highest level of concern by IT security decision-makers.”

Source: Forrester Enterprise And SMB IT Security Survey

The Changing Workforce – A Younger Generation

Entering an often technology complacent environment

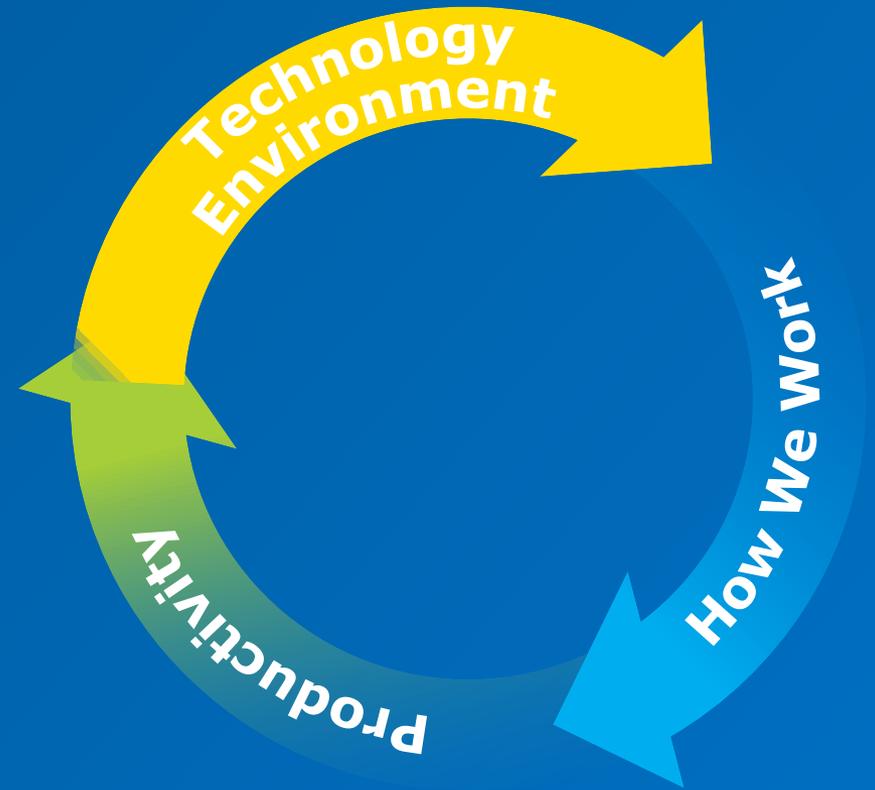
- Many IT shops have stagnant employment bases
- Flat or downward budgets limit IT's flexibility
- Home usage models not always viewed as viable in corporate space

Can actually help redefine how you work

- Instant messaging as an example
- New forms of collaboration

Can limit productivity as much as enable it

- IM instead of face-to-face conversation
- If it doesn't show up in an Internet search, does it really exist?



Other Workforce Changes

We are dealing with a user base that feels more entitled than in past

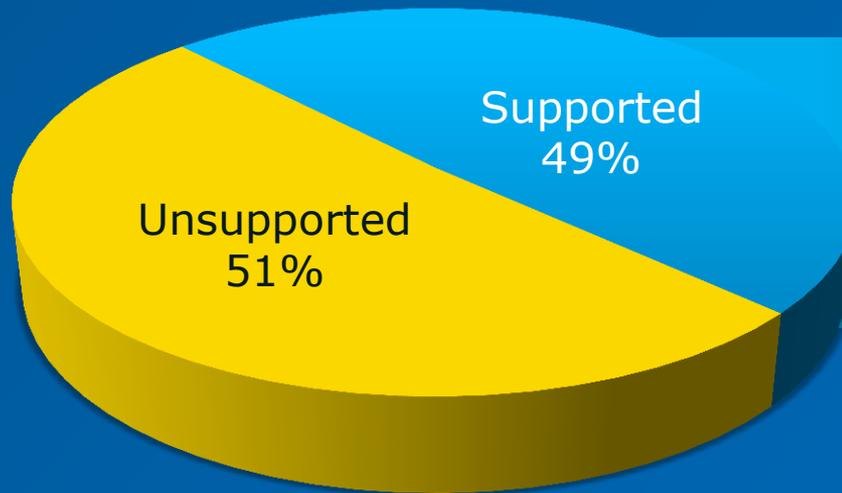
- It's a "T-Ball" generation of workers
- Telling them "no" means they will try on their own
- They consider IT a dinosaur and obsolete

It's all about the "Now"

- Text messaging and IM are the norm
- Not willing to wait quarters or years for new items
- Will "stand in line" to have it

The Changing Landscape for IT

Employee Purchased Devices used for Business



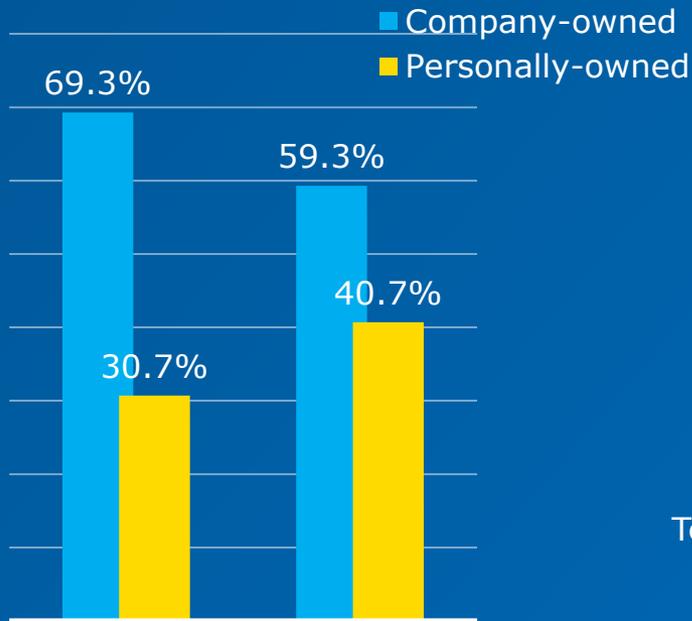
**Only 49% of
businesses support
personal device usage**

- Employers don't seem to know how many or what consumer technologies are in use in their workplace. Workers report using consumer devices at twice the rate employers reported.
- Workers are dissatisfied with the level of support IT provides for consumer technologies.

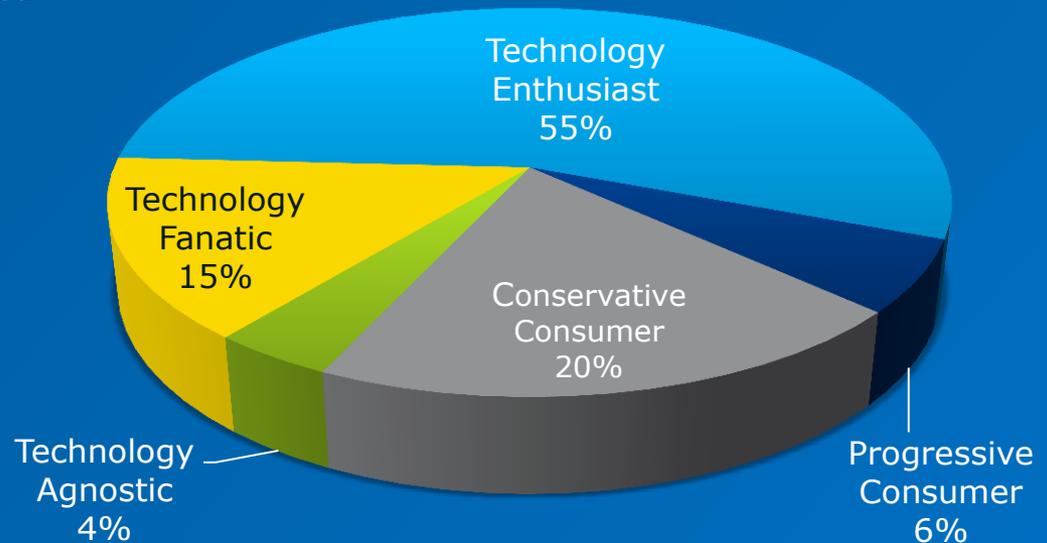
Source: IDC Information Worker custom Survey, sponsored by Unisys, May 2011 and May 2010, Q1 (2011) & Q4 (2010).

The Changing Landscape for IT

Devices Used to Access Business Applications



Which of these statements describes you the best in relation to home and personal technology



It's not just about "a" platform anymore. It's about the overall experience and services the user wants.

Source (left): IDC information worker custom survey, sponsored by Unisys, May 2011 and May 2010 Q1 (2011); Q4 (2010). Which, if any, of the following devices do you use to access your organization's business applications such as employee benefits, customer billing, client relationship tools, or productivity tools such as spreadsheets, word processors, etc?

Source (right): The Register – Fall 2011 Consumerization study

Handheld Devices Inside Intel IT

Program Status

- 29,000 deployed today serve as companion device to mobile business PC
- 58% of these are personally owned
- End User License Agreement with manager approval



Business Value

- 640,000 e-mail messages via personal handhelds (per qtr.)
- Avg. 51 minutes user productivity (time back per day)
- Fewer unauthorized devices on our network

Offer employee productivity and flexibility advantages.

Source: Intel IT Internal data, January 2011

*Other names and brands may be property of others.

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Technology Changes – A Bi-directional Process



Employees are bringing in devices, software, and usage models that IT needs to

- Be aware of
- Use to their advantage where it makes sense
- Follow the trends developing outside the corporate space
 - Client-Aware Cloud
 - Devices with higher-end features

Employees are showing a willingness to listen

- Criteria of technology on their end-devices
- What and when we are trying to enable

Forces Shaping Client Computing

Virtualization

Hypervisors, streaming

Internet

Ubiquitous broadband,
anytime/anywhere, flexibility

Cloud Computing

On-demand, pay as you go,
DaaS, SaaS

Consumerization

Many devices per user, BYOD,
Gen-Y workforce



Visualization

Rich Media applications,
3D Internet



Risk

Regulation, threats,
security, compliance



Connect

Collaboration,
communication, mobility

Sustainability

Energy, environment

Client Computing Architecture

Financial

Economic reality, TCO/ROI,
licensing, business value

We are at an inflection point.

Historical View: Enterprise Client Evolution

Fixed Client

Unmanaged

- Security Challenges
- Unmanaged
- Inefficient Operations
- Client-server



Yesterday

Fixed and Mobile Clients

Device-Managed

- Focus on TCO efficiency
- “One size fits all”
- Monolithic image locked to device
- Mainstream mobility
- Internet Computing
- BYO* not supported



Today

Virtualized Client

Centrally Managed

- Client-hosted and Server-hosted virtualization models
- 1:many user/device
- Compute, collaborate, and communicate
- Wireless broadband
- BYO* Tolerated



Evolving

Managed Services Delivered to Client

Cloud-Managed

- On-demand PPU (*aaS)
- Elastic, ubiquitous
- Virtual computing
- Device independent mobility (device-aware)
- Service delivery to any “pane of glass”
- 3D Internet
- Always on, always connected
- Converged Infrastructure
- BYO* Mainstream
- Consistent user experience



Continuum

Cloud SaaS Applications, Private Cloud, Hybrid Cloud

Advanced Business Intelligence: Analytics Insight



5 skilled people in 6 months yields \$10M

The Compute Continuum



Desktops

Laptops

Netbooks

Personal
Devices

Smartphones

Smart TVs
& Displays

Embedded

Future of Enterprise IT

- IT's client platform business is becoming more complex and costly to manage
 - Consumerization, multiple OS, multiple vendor influences
 - Ratio of devices to users becoming 1:Many
- Business model for enterprise clients is becoming more complex
- Users will require access to corporate applications and data from multiple devices
 - Not always corporate owned or managed
 - IT will require scalable solutions to manage that complexity
- A fundamental shift in the management of the client end point
 - From device-based to container-based model
 - Applications or environment will be based on combination of device, bandwidth, usage model, & policy

Evolving IT Environments

Security

- Move away from the single or “one size fits all” security model to more of a multi-layered or ringed security approach. (i.e. file encryption, application tunneling, geo fencing)

IT as a true service provider

- Move away from serving the 80/20 role to a role of providing services that meet the usage model needs
- Right fit/design for the job
- Manage more in the backend versus chasing the mobile front end

Influence scope changes

- Not just about OEM’s and software shops anymore
- End users
- Cloud providers

Summary and Call to Action

IT needs to embrace Consumerization, but cautiously:

- Focus on optimizing user experience across a range of devices
- Support various modes of connectivity & layers of security
- Don't compromise information security

Develop and support capabilities to:

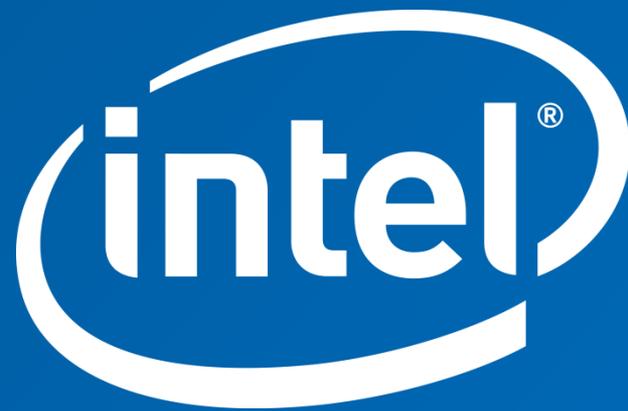
- Certify isolation of corporate data
- Enable multiple environments to run simultaneously
- Transition workspaces seamlessly from one device to another
- Don't always try to manage every physical device

IT can prepare for Consumerization by:

- Evolving from delivering the "big bubble" to more of a Services Company
- Abstract IT data and applications to function in diverse environments
- Move to cloud-based service offerings where it makes sense, both private and public



Q & A





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