The Future of Enterprise Computing: Preparing for the Compute Continuum

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Agenda

Background

• What is the Compute Continuum?
• How is Intel preparing for the future and the Compute Continuum as an organization

Intel’s Roadmap Mobile Devices

• Mobile Components
• Tablets
• The Ultrabook
The Intel Reach

Established Architecture
Software Investments and Compatibility
Manufacturing and Process Leadership
Ecosystem Strategic Partners
Intel's Vision: Create and Extend Computing Technology to Connect and Enrich the Lives of Every Person on Earth
The Compute Continuum Vision

Intel Envisions a Compute Continuum That Provides a Seamless, Consistent Experience Across Multiple Devices
The Good Old Days

Enterprise Life

Consumer Life

Clear Delineation

IT@Intel
Now, Consumers are Shaping the Market

Source: Gartner April '10

Consumer Overtakes Business in 2009
How Does Intel Define IT Consumerization

I want...

... to bring my own device
... access from many devices
... to troubleshoot my own device
... to manage my own services (example: Skype – video)
... access to new collaboration and social media solutions available to me outside work

THE INTEL IT DEFINITION
consumerization n. the increasing influence that our technology experiences in our personal lives, both hardware and applications, have on the technology that we expect to use at (school and at) work.
In 2010, Consumerization crossed a threshold to become a broader business force.¹

Consumerization is an example of ongoing evolution of how people work together. As such, we need to learn as much about end users as we do about IT.²

These end users expect greater access in more places and on more devices. They will either work with or against IT to make it happen.²

¹ Source: Gartner
² Source: Gartner Analyst
Intel’s Bring Your Own Device Program

Over 1 year of partnership, collaboration between Human Resources, Legal and Security to put safeguards in place to allow employee device choice

Program Status (started Jan 2010)
1 in 4 employees use handhelds (phone/tablet)
>50% personally owned today

Business Value
640k email/Qtr messages via personal handhelds
Avg. 51 minutes per day user productivity
Fewer unauthorized devices on our network

Employee Productivity Through Work Flexibility

Source: Intel IT Small Form Factor Team. Email support is with and without attachments
As the Boundary Continues to Blur, Our Strategy Is To...

- Proactively and securely enable consumer devices and services
- Develop the capability to isolate corporate data, enabling coexistence
- Abstract data & apps from devices so they can function in diverse environments
- Use cloud computing as foundation for flexible service delivery

Proactive Approach ...
Otherwise Users Will Work Around
Enabling Consumerization Securely

- New policies + partnerships between HR, legal, IT and security
- View employees as both partners and customers
- Establish training to nurture aware users
- Radical 5 year shift in security model

Intel IT Has Adopted a New Four-tier Security Model That Incorporates the Person, Device, Data and Location

Preparing for the Compute Continuum

In 2010, Intel IT established a program to begin evaluating our holistic client strategy and environment.

Expanding Consumerization

• More devices supported by BYO
• More services on more devices

Delivering IT as a Service

• Embrace both server and client virtualization
• Utilize cloud computing for flexibility, agility

Realizing the Compute Continuum

• Client-aware application and data delivery
• Refining the enterprise client security & trust model

Realizing the Compute Continuum

_Six Strategic Focus Areas for Intel IT_

### Platforms & Applications

**Client Awareness**
Desire Apps that can discover capabilities of hardware to deliver best user experience

**Common Development Framework**
Goal is to quickly develop applications across a spectrum of OSs and Devices

**Dynamic Application Delivery**
Decide if internal software distribution or application stores are best for each device

### Consumer Device Security

**IT Security Policies**
Evolve policies to comprehend management of more non-IT supported devices

**Multi-level Trust Model**
Dynamically adjust user’s data access privileges as location and device changes

**Streaming Device Security**
Need mechanisms to secure data through less cumbersome authentication procedures

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Intel’s Roadmap for Mobile Devices
- Mobile Components
- Tablets
- The Ultrabook
Mobile Landscape in 2012

SPP

$699
$599
$499
$399
$299
$249
$199

Consumption
Communications
Light productivity
Battery Life

FUNCTIONALITY

Multi-Function
Immersive / Visual Internet
Performance

< $199-$299

Netbook

Hybrid

Typically 11” and above

Starting at less than $799

$3xx and up

Ultrabook™

$199 - $299

Tablet

Span of price points from $299 and up

$249

Smartphone

Up to 12.1”
Mobile Solutions

Form Factor and Battery Life to be Mobile and Connected
Key Intel Tablet and Hybrid Designs in 2011

- **Fujitsu Stylistic Q550**
  - Enterprise focus, Win7
  - 10.1 inch
  - Fingerprint reader
  - Rugged design, Win7
  - 10.1 inch
  - 802.11 a/b/g/n

- **Toshiba WT110**
  - Larger slate form factor
  - 11.6 inch
  - Win7

- **Lenovo Ideapad**
  - Focus on vertical markets
  - 10.1 inch
  - Win7

- **Dell Latitude ST**
  - Enterprise focus, Win7
  - 10.1 inch
  - 5MP rear camera and 720p HD front camera

- **ViewSonic ViewPad 10Pro**
  - Dual OS Experience
  - 10.1 inch

- **Fujitsu TH40D**
  - Slider
  - 10.1 inch
  - Win7

- **Motion CL900**
  - Rugged design, Win7
  - 10.1 inch

- **Cisco Cius**
  - Enterprise Android Tablet
  - 7 inch
  - AppHQ Enterprise App Store

- **HP Slate 2**
  - Enterprise focus, Win7
  - 10.1 inch
  - Fingerprint reader

- **Evolve III Maestro C**
  - Convertible with stand, opt. keyboard
  - 10.1 inch
  - Multiple OS

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Intel Mobility Experience

Oak Trail Experience

- <15 mm Thick Slates*
- ≤1.5 Pounds
- ~6 Hours Battery Life
- 1 Week Stand By*

Medfield and Clover Trail Experience

- <8.5 mm Thick Slates*
- ≤1.5 Pounds
- ~9 Hours Battery Life
- 30 Days Stand By*
Enterprise Ultrabook™

Ultrabook™ for Enterprise extends current content creation capabilities with optimized mobile experiences without compromising security and manageability


### Business User Requirements
- Responsiveness
- Mobility
- User Interface(s)
- Form Factor

### IT Decision Maker Requirements
- Reliability
- Security
- Stability
- Manageability

### Business-Level Performance

Full PC functionality and enterprise-class security in an Ultra-mobile package – only from Intel®

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Why We’re Talking About Change

• End User Expectations of PCs Rising
  – Aesthetics, Long battery life
  – Instant on, Always connected
  – Touch, Ease of SW delivery

• Ultrabooks™ for Enterprise will:
  – Address security and manageability that IT managers require

    AND…

  – Address growing user needs for:
    – Innovative thin & light designs with Full PC productivity
    – Instant on, AOAC (Always on & Connected) experiences + High performance
    – Extended battery life and multi-week standby

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## 2012 Ultrabook™ Specs for 2012

<table>
<thead>
<tr>
<th>Categories</th>
<th>Chief River (2012)</th>
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<tr>
<td><strong>CPU</strong></td>
<td><em>Baseline:</em> Ivy Bridge 17W (Core™, Core™ vPro)</td>
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| **Z-Height**     | *Baseline:*  
≤21.0mm for ≥14.0” systems  
≤18.0mm for <14.0” systems  
(2.0mm allowance for convertible designs)                                                                                                         |
| **Battery Life** | *Baseline:* > 5 hours MobileMark* 2007  
*Recommended:* > 8 hours                                                                                                                                         |
| **Responsiveness** | *Baseline:*  
Awaken S4 to KBD: < 7 sec, AND  
A storage solution that achieves a PCMark Vantage HDD Sub Score Overall ≥16,000** and a PCMark Vantage HDD Sub Score Video Editing Score of 80 MB/s. A minimum capacity of 16GB of solid state storage is required. The storage solution shall transparently present a single drive to the user.***  
*Recommended:* SSD                                                                                                                                         |
| **Connectivity** | *Baseline:* Wi-Fi  
*Recommended:* Programmable Pull Updating                                                                                                                     |
| **I/O**          | *Baseline:* USB 3.0 and/or TBT (thunderbolt)                                                                                                                                                                       |
| **Security**     | *Baseline:* BIOS/Firmware Enabled to expose HW features for Intel® Anti-Theft and Intel® Identity Protection Technology services (OTP and True Cove). AT and IPT SW pre-installed and service/deal ready for OOBE  
*Recommended:* + vPro for Enterprise, Intel® Small Business Advantage                                                                                       |
| **Sensors**      | *Recommended:* Touch, GPS, Accelerometer, Proximity, ALS                                                                                                                                                |
| **SW/OS**        | Windows* / Mac OS*  
*Recommended:* App store                                                                                                                                                                                     |
Thank you and enjoy the day!

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