Netbooks and Nettops

New category of emerging Internet Devices

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Mobile Platforms Group
Intel Developer Forum, April 2008
Agenda

- Background & Environment
- Netbook & Nettop Overview
- Q&A
Environment

- Internet based content, usage models exploding
- New category of devices emerging
- Opportunity to grow markets
- Strong interest in bringing technology to education
Nettops & Netbooks

Nettop TAM

$100 - $299

2007 2008 2009 2010 2011

NetBook TAM

< $399

67% CAGR

Internet:
Connectivity is a Key Usage for Basic Computing

Low Cost Silicon:
45nm Diamondville Shipping in May*

Purpose Built Solutions:
Platform Optimized for Low BOM Cost

Sources: Mercury Research, January 2008
Gartner Quarterly, December 2007
IDC Research, December 2007

* Intel Forecast
Market Opportunities for Affordable Internet-Centric Devices

Top Mature Markets
- United States
- United Kingdom
- Germany
- France
- Italy
- Spain
- Japan
- Korea
- Canada
- India
- Brazil
- Russia

Top Emerging Markets
- China
- Mexico
- Turkey
- Thailand
- Malaysia
- Indonesia
- Australia
- Brazil
- Mexico
- Turkey
- Thailand
- Malaysia
- Indonesia
- Australia

Majority of households surveyed in emerging markets have zero PCs
- First device per home (primary device)

Very few households surveyed in mature markets have > 1 PC
- More devices per home (secondary device)
Netbooks and Nettops

Simple
Affordable
Internet-Centric

Designed for content consumption, Internet usage models
New Processor, New Brand

Intel’s smallest processor built with the world’s smallest transistors

- New architecture
- Designed from the ground-up
- Uses Intel’s industry-leading 45nm process

Enables:
- Affordable Price Points
- Adequate performance
- Low Power

Enabling new opportunities for innovation
The Fundamental Cost Driver

Twice the circuitry in the same space (architecture innovation)  OR  The same circuitry in half the space (cost reduction)  =  Half the die size than in the prior process

Source: Intel
The Magic of 45nm

The New Intel™ Atom™ Processor
Intel Processors Power a Range of Devices!

Want a simple and affordable device for Internet-centric usage models?
- Netbook or Nettop

Want the “best internet experience in your pocket”?
- Mobile Internet Device

Want a richer, fuller experience?
- Notebook or Desktop

Today’s Briefing
Internet Centric Computing

Communicate
- Email
- Instant Message
- Voice Over IP (VOIP)

Watch
- Photo Viewing
- Streaming Video
- Flash Video

Browse
- Surf the Web
- Read the News
- Search for Information

Listen
- MP3
- Streaming Audio
Netbook Overview
Basic Mobile Platform ‘08 Summary

**CPU**
- Intel® Atom™ Processor N270

**Thermals**
- Enable s: Low cost
- Small Form factor
- Fan-less designs

**Form Factor**
- Optimized for <10” Display

**Battery Life**
- 4 + Hours

**Memory**
- 256/512 MB

**OS**
- Linux*
- Microsoft Windows XP Home*

**Chipset**
- Intel® 945GSE
- Multiple I/O ports inc.
- PCI Express & USB
- Intel® HD Audio

**Connectivity**
- 802.11b/g Wi-Fi
- 10/100 LAN

**NAND Storage**
- USB or PATA 2, 4, 8 GB

**Optional**
- Integrated Camera Water-Repellent
  Keyboard

**Flexibility to design simple, affordable netbooks**

~$250 system price point
Comparing Mobile Devices

Want the “Best Internet Experience in Your Pocket”
- MID: Infotainment
  - Screen: MID: 4.5” - 6”
  - OS: MID: Linux, XP
  - Key Usages: MID: Infotainment

Want a platform at new Affordable Price Points?
- Internet-centric
  - Screen: < 10”
  - OS: Linux, Windows

Want More Than Basic?
- Office Productivity & Multitasking
  - Screen: = > 12”
  - OS: Windows

Get A Mobile Internet Device
Get A Netbook
Get A Mainstream Notebook
**Differentiating Netbooks from Entry Notebooks on User Experience**

### Netbooks
- Use pre-loaded, web-centric applications
- Listen to Music
- Photo viewing
- Video Viewing (Streaming)
- Voice over IP
- Surfing the internet
- Instant Messaging
- Email
- Social Networking
- Play basic online games

### Entry (Value) Notebooks
- Install software
- Download, store and listen to Music, play CDs
- Edit, Store photos, videos
  - Watch DVDs
  - Video Conferencing, Richer web surfing experience
- Open, edit, store large files, Play richer, interactive & installed games
- Multi-tasking

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<tr>
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<th>Content Creation/Editing</th>
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**Richer User Experience; Do More, Faster**
Intel®-powered classmate PCs are purpose-built for education; manufactured by ODMs

Basic Mobile Platforms enable a simple and affordable platform for Internet centric usage models

Classmate PC Category is a sub-set of the Basic Notebook Platforms that is focused on a specific Usage Model area (Education)

- Kid/Classroom Friendly ID
- Custom Education SW
- Rugged Design
- Water Repellent Keyboard
Nettop Overview
Basic Desktop Platform ‘08 Summary

CPU
- Intel® Atom™ Processor

Chipset
- Intel® 945GC
- Multiple USB ports
- Intel® HD Audio

Thermals
- Low platform TDP enables SFF designs; Fan-less capable

Graphics
- Intel® GMA 950
- DX9

Memory
- Up to 2 DIMMS
- DDR2 667
- 512MB to 1GB

OS
- Linux®
- Microsoft Windows XP

Enabling simple & affordable desktop systems
# Comparing Nettops and Desktops

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<th>Entry/Value Desktop</th>
<th>Mainstream Desktop</th>
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<tr>
<td><strong>Usages</strong></td>
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<tr>
<td><strong>Productivity</strong></td>
<td>Web Browsing, Word Processing &amp; E-Mail</td>
<td>Computational Spreadsheets &amp; Databases</td>
<td>Premium office suites</td>
</tr>
<tr>
<td><strong>Photo &amp; Video</strong></td>
<td>Photo &amp; Video Viewing (Streaming)</td>
<td>Editing in Windows* Photo Gallery</td>
<td>Creates and manages Photos and Videos. Faster video encoding and DV editing</td>
</tr>
<tr>
<td><strong>Video Playback</strong></td>
<td>SD Playback (i.e. YouTube)</td>
<td>Capable of HD Playback</td>
<td>Full HD playback, PVR</td>
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<tr>
<td><strong>Games</strong></td>
<td>Legacy Online Games</td>
<td>Basic Online Games</td>
<td>Mainstream/Performance DX10 3D Games</td>
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<tr>
<td><strong>System Attributes</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Discrete Graphics</td>
<td>No</td>
<td>Capable</td>
<td>Yes</td>
</tr>
<tr>
<td>CPU + CS TDP</td>
<td>12W - 26W</td>
<td>45W - 65W</td>
<td>65W +</td>
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<tr>
<td>System Price</td>
<td>&lt;$299</td>
<td>&gt;$300</td>
<td>&gt;$999</td>
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**Richer User Experience; Do More, Faster**
Desktop Differentiation

**CONTENT CONSUMPTION**

- Basic computing applications
- Listen to Music
- Photo viewing
- Video Viewing (Streaming)
- Voice over IP
- Surfing the internet
- Instant Messaging
- Email
- Social Networking
- Play basic online games

**CONTENT CREATION EDITING**

- Install Advanced Software
- Download, store and listen to Music, play CDs
- Edit, Store photos, videos
- Watch DVDs
- Video Conferencing, Richer web surfing experience
- Open, edit, store large files,
- Play richer, interactive & installed games
- Multi-tasking
Summary

- Environment offers new opportunities
- Netbooks/Nettops based on purpose built roadmaps
- Simple, affordable, low power, targeted performance
- Differentiated from notebooks and desktops
  - Form factor, user experience & system price points
Q & A