Intel® Centrino® Atom™ Processor Technology
Small Devices Unleash BIG Opportunities
Small Devices Unleash BIG Opportunities

Anand Chandrasekher
Senior Vice President, Intel
General Manager, Ultra Mobility Group
Internet is Pervasive

MORE PEOPLE
1.3+ Billion Internet Users

MORE PLACES
Google Queries in 36 Languages

MORE TIME
Average User Spends 32 Hours per Month

MORE THINGS
140 Apps on Facebook Every Day

Source: internetworldstats.com; Nielsen; Google; Facebook
Facebook: How do we use it?

- Post Profiles
- Collect Pictures
- Share Videos
- Find Friends
- Download Apps
- Read NY Times
- Watch TV
- Listen Music
- Get Dilbert
- Blog, IM, VoIP
- Track Travels
Users Want to Take These Experiences with Them...

Forecast of Worldwide Mobile Internet Users

People Using Mobile Devices to Access the Internet is Expected to Triple by 2012

Source: eMarketer, April 2008
... But There Are Challenges

| Mobile Internet is valuable                                                                 | 58% |
| Internet on a mobile phone doesn’t meet my needs                                          |     |
| When I’m on the go, I sometimes wish I could look things up online                       | 48% |
| I miss the Internet when I’m away from home and work                                      | 41% |
| I would be willing to pay $20 a month for wireless broadband service                     | 38% |
| It would be very important for me to be able to access the broadband Internet from anywhere | 37% |

| Device shortcomings inhibit mobile Internet                                               |     |
| Mobile phone screens are too small to do things besides make calls and send messages    | 60% |
| Laptops are too big/heavy to bring everywhere I want to bring them                       | 24% |

Base: 5,398 North American online adults

Source: North American Technographics® Consumer Technology Online Survey, Q4 2007
*Adults answering 4 or 5 on a scale from 1 (strongly disagree) to 5 (strongly agree)
This Gap Creates A Unique Opportunity for the Industry...
Mobile Internet Devices
Allow You to Take Your Experiences with You

Entertainment  Communication  Information  Productivity

Core Usages Moving to Internet

Bringing the Best Internet Experience in Your Pocket
Range of Form Factor and Usage Choices
A Day In the Life: Janet Hsieh
Entertainment Experiences

User Generated Video
Social Networking to Go
Online Pictures
Music On the Move
Anytime Browsing
Etc...
BenQ

Enjoyment Matters

Peter Chen
General Manager
Technology Product Center
Information Experiences

Turn-by-Turn Directions
Location Based Services
Social Networking to Go
Music On the Move
Anytime Browsing
Etc...
Masatsugu Shinozaki
Executive Vice President & General Manager
Car Information System Division
Hitachi, Ltd.
Intel Mobile Internet Device Strategy

ENABLE
Best Internet Experience in Your Pocket

MAINTAIN
Performance and Compatibility Leadership

MAJOR REDUCTIONS IN
Power and Form Factor

COLLABORATE
With the Ecosystem
Intel Innovation
Low Power Compatible Platforms

2008 / 09

>10X* Reduction in Idle Power
Target Usages: Internet + Voice

45nm
MOORESTOWN

2009 / 10

First Grounds Up Low Power CPU and Chipset
Target Usages: Entertainment, Social Networking, Information

45nm
MENLOW

Source: Intel Roadmap. All products, computer systems, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice. Moorestow 10X reduction is roadmap target not measured data.
What’s Needed to Enable the Best Internet Experience in Your Pocket

- Ultra-Mobile Performance
- Internet Compatibility & Software Consistency
- Wireless Connectivity
Continued Performance Leadership

Comparing Cores — Estimated Integer Performance
(Estimated Subset of SPEC CINT2000 Benchmarks)

- Intel® Atom™ Processor
  Z530 1.6 GHz
  ~38% boost with HT for multi-tasking

- Intel Atom Processor
  Z510 1.1 GHz
  >2X

- Cortex-A8 1GHz
  3X

- Cortex-A8 500 MHz
  (Set as baseline)

More Than Double the Performance - Across the Range

Data based on Intel SPEC CINT2000 component rate estimates, May 2008. Intel estimates based on evaluation of S (vpr, crafty, parser, corn, twolf) of the SPEC CINT2000 benchmarks on a OMAP3531 EVM and an Intel Atom processor board (QSS) with the compiler: Code Sourcery GCC 4.2.1; workload selection was based on SPEC’s documentation of memory size ([http://www.spec.org/cpu2000/analysis/memory/]) (the OMAP3531 EVM was limited to 128MB) and what could be compiled successfully on the OMAP3531 EVM with GCC 4.2.1. The processor skus selected were based on expected available, low and high bins of the processor.

*SPEC® and SPECint® are registered trademarks of the Standard Performance Evaluation Corporation. For more information go to www.spec.org.
*Performance tests and ratings for are measured using specific computer systems and/or components and reflect the approximate performance of Intel & competitive products as measured by those tests. Results have been simulated and are provided for informational purposes only. Any differences in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and the performance of Intel products, visit Intel Performance Benchmark Limitations.
Leadership Webpage Render Performance

Performance Comparison on Webpage Render*
(Browsing Over SSD - Network Dependencies Removed)

- Intel® Atom™ Processor Z530 (1.6GHz)
- TI OMAP 2420 (ARM11, 400MHz)

4.1-6.5X Competitive Advantage

* Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit Intel Performance Benchmark Limitations.

* TI OMAP2420 (ARM11, 400MHz) results are based on a standard Nokia N810 device purchased in retail.
Internet Compatibility Snapshot

Even the Best Point Solutions Do Not Match IA Experience

*Other brand and names are the property of their respective owners.

** Intel results for IA-based Linux MID based on McCauley '07 platform (featuring the Shackle processor) and pre-production software stack created for test purposes that simulates performance of software stack for future Netbook based systems - actual device software may vary results.
Always Connected MIDs
Collaborating with Industry Leaders

3G Module Connection Manager

WiMAX (Half Size PCIe Minicard)

WiFi + Bluetooth + GPS 3-in-1 Module

USI
Gemtek
Samsung

Mobile TV (DVB-H, DVB-T, T-DMB, ISDB)

Option
Intel
Siano

WiMAX Broadband Demo
MIDs are Here
Thank You Taipei ...
For Bringing the MID Vision to Life with Menlow!

IDF April 2007
We Are Not Alone In This Journey
Announcing Today
Mobile Internet Device Innovation Alliance

*Other brand and names are the property of their respective owners.*
Announcing Today

- Global leader in Linux-based device software optimization
- Wind River is embracing Moblin and committing to deliver and distribute integrated stack for Mobile Internet Devices
- Strengthens Moblin momentum and ecosystem
Growing Moblin-based MID Ecosystem
Bringing Compelling User Experiences to Market

1000+ Community of Developers

10+ System Developers

50+ ISVs

MOBLIN.ORG

ubuntu

Wind River

intel

thinkfree

movial

real

lingtu

dolby

One Voice

Faith

neusoft

Adobe

myspace.com

AOL

bmat
Service Providers Getting Ready

*Other brand and names are the property of their respective owners.*
Users Are Ready ...

19 Year Old
Gadget Freak
YouTube Addict
Hip and Cool

28 Year Old
Social Networker
Works Hard
Plays Harder

35 Year Old
Ultra Busy
Multi-tasking
Young Kids

42 Year Old
Dealmaker
Well-informed
Connected

MySpace
Twitter
iTunes
KKBox
Wretch.cc

Facebook
Atlaspost
Like.com
Friendster
Pixnet

WebMD
Parenting
Flickr
PChome
Nickelodeon

Orbitz
Google
E*Trade
UDN
LinkedIn

*Other brand and names are the property of their respective owners.
Where is the Internet Going?

Even More Performance

Better Graphics

HD Quality Content

Faster Networks
Next Up: Moorestown

We Are at the Start of A Journey ...
Summary
Small Devices Unleash Big Opportunities

Internet Going Mobile is a Major Opportunity

Intel Creating Platform for Innovation

We Are Only Just Starting ...