The Internet in Your Pocket: MIDs & WiMAX

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Intel Corporation
Mobile Mix of Total Client

Source: Industry Forecast 1H07, Intel Internal

*Mobile CPU Mix as % Intel Client CPU
WiFi Ramp

Worldwide NB PC shipments

Embedded WLAN in NB PC shipments

Source: IDC
The Internet is the Great Growth Engine

Internet and Cellular Phone Users, Indexed Over the Last 10 Years

Source: Internet World Stats, RHK, Gartner
Vision for Mobility: Personal Mobile Broadband

Anytime, Anywhere – Always Connected

Subnotes – UMPCs
Portable Video
Personal navigation
Handheld Gaming
Internet Tablet
Smartphones
notebooks

Mobile Internet Devices (MID)
What’s Needed To Deliver True Uncompromised Mobile Internet...

- **Full Web + Media:** Consumption & Creation On The Go
- **Mobile Performance:** Responsiveness & visualization
- **Software Compatibility:** For the User and Developer
- **Always On Always Connected:** Responsiveness & visualization
Moore’s Law for Mobile Internet in Your Pocket

17” Screen
Entertainment & Productivity Notebook

Thin and Light Notebook

Sub-Notebook

Ultra Mobile

3” Screen
Mobile Internet Devices

NEAR FUTURE…
~10X LOWER POWER
~10X MORE MOBILE

Statements are vs. current devices
Product descriptions, plans and comparisons provided are estimates only and subject to change without notice.
Intel MID Platform Roadmap

<table>
<thead>
<tr>
<th>Year</th>
<th>McCaslin</th>
<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>32 bit, up to 800 MHz</td>
<td>CPU up to 1.86 GHz, 64 bit, HyperThreading</td>
<td>To be announced</td>
</tr>
<tr>
<td>3D Graphics, SD Video</td>
<td>Advanced 3D, Video Decoder for MPEG2, H.264, WMV9/VC1</td>
<td>Significantly improved Graphics and visual experience</td>
<td></td>
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<tr>
<td>battery life</td>
<td>2-5 hours</td>
<td>4-11 hours</td>
<td>Significantly improved active and standby battery life</td>
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**Driving** ↓ Size and Power. ↑ Integration, Features, and ↑ Battery Life.
Mobile Internet Devices (MIDs) Requirements

- Small form factor
- Good battery life
- PC-like performance
- PC-like internet experience
- Affordable: PC OS/internet/Comms ecosystem
- **AND: Anytime/Anywhere BROADBAND (MOBILE WIMAX)**
1H’08: Menlow Platform from Intel

iA + WiMAX

Rich Internet Experience
Broadband Technology Throughput Comparison

<table>
<thead>
<tr>
<th>Technology</th>
<th>Average File Transfer Rates</th>
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<tr>
<td>EV-DO Rev. A</td>
<td>1.06 Mbps</td>
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<tr>
<td>EV-DO Rev. B</td>
<td>4.65 Mbps</td>
</tr>
<tr>
<td>UMTS/HSDPA</td>
<td>3.91 Mbps</td>
</tr>
<tr>
<td>Mobile WiMAX</td>
<td>14.1 Mbps</td>
</tr>
<tr>
<td>Wi-Fi g</td>
<td>16 Mbps</td>
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</tbody>
</table>

WiMax WWAN complementary to high BW WLAN

Source: WiMAX Forum White Paper
Wireless changed the landscape for voice... WiMAX will change it for broadband

Wireless Driving Growth

Growth Coming from Wireless

Traditional Wireline Voice Minutes

Wireless Voice Minutes

'92 '94 '96 '98 '00 '02 '04 '06

Broadband Driving Growth

Growth from Wireless?

Inflection Point: Mobility + Consumer Price Point

Broadband Subscribers

Narrowband Subscribers

'03 '04 '05 '06E '07E '08E '09E '10E

Source: Sprint, Morgan Stanley
WiMax: > 300 Trials, > 95 Commercial Deployments

Source: WiMAXCounts.com in collaboration with Maravedis Research, Sept 2007
## WiMAX Global Deployments

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</thead>
<tbody>
<tr>
<td><strong>WiMAX Trials &amp; Deployments</strong></td>
<td>10</td>
<td>250</td>
<td>400</td>
<td></td>
<td></td>
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<tr>
<td><strong>Population Covered</strong></td>
<td>150M</td>
<td>650M</td>
<td>1.3B</td>
<td></td>
<td></td>
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<tr>
<td><strong>Large WiMAX Carriers</strong></td>
<td>3</td>
<td>12</td>
<td>20</td>
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**Countries and Regions:**
- US, Mexico, Canada, China, India, Japan, Russia
- Australia, UK, Germany, France, Italy, Brazil
Intel’s WiMAX Products Focus

• **Features/Capabilities**
  – Mobile WiMax: 802.16.e
  – Embedded Multicomm (WiFi/WiMax)
  – Multiband
  – PC Class: security & manageability
  – Performance, power, battery life

• **End-to-End Enablement**
  – Convergence of PC/Comms ecosystems
  – Open, no lock, no block Internet Content
Intel Silicon driving new devices
Worlds first combo Wi-Fi/WiMAX Module

Mobile Notebooks & MIDs

Fixed Modems

CE

2006-2007

2007-2008

2008+

Committed to embed WiMAX into next-generation Intel® Centrino® Processor Technology notebooks

Intel may make changes to specifications, product descriptions, and plans at any time, without notice. Other names and brands may be claimed as the property of others.
Performance and Value 1st WiFi/WiMAX Combo Card

MiniCard

Half MiniCard
Consumer Electronics Show: Jan 7-10
2008

Intel goes full board on WiMax
MarketWatch January 9, 2008
Las Vegas- At the Consumer Electronics Show on Tuesday, Intel used a small fleet of cars to drive the press and other guests around to demonstrate the power of the wide-ranging wireless technology.
WiMAX Commercial Readiness: It’s happening now!

Progress Meter

- **Carriers**: 2008: US, Japan, Russia, Taiwan, Mexico, Canada.
- **Products**: Echo Peak (Notebooks), (Baxter Peak) MIDs, Rosedale for CPEs, Misc cards
- **Marketing**: Intel® Centrino® 2, XOHM, .....
- **Design Wins**: Lenovo, Panasonic, Acer, Asus, Toshiba announced
- **Certification**: WMF Labs up and running. Phase 1 & Phase 2 certs in 2008
- **IOT**: Plugfests, Carrier/TEM trials
- **WiMax Forum**: Healthy Membership/Momentum
- **Regulatory**: Profile support across frequencies, IMT 2K
- **IPR**: Developing
Summary

- Mobile, Personalized Internet-in-your-pocket is a revolution in making
- Moore’s law driving new MID category
- Communication/Computing convergence 2.0
- Mobile WiMax Broadband is THE Open Mobile Internet enabler
- 2008 is the year of Mobile WiMax/MIDs deployment!!
Thank You!