Wireless and Broadband: Trends and Challenges

Dow Lohnes-Comm Daily Speaker Series
Washington, D.C.

October 15, 2004
Total US Mobile Telephone Wireless Subscribers

<table>
<thead>
<tr>
<th>Year</th>
<th>Subscribers (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>16</td>
</tr>
<tr>
<td>1994</td>
<td>24</td>
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<tr>
<td>1995</td>
<td>34</td>
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<tr>
<td>1996</td>
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<td>1997</td>
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<td>1998</td>
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<td>1999</td>
<td>86</td>
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<tr>
<td>2000</td>
<td>110</td>
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<tr>
<td>2001</td>
<td>128</td>
</tr>
<tr>
<td>2002</td>
<td>142</td>
</tr>
<tr>
<td>2003</td>
<td>161</td>
</tr>
</tbody>
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Wireless Use Today

- 2 Billion messages per month (doubled between 2002 to 2003)
- 25% of users send text messages
- Advanced applications
  - **Picture messaging**: Verizon users alone share 7 Million pictures per month
  - **Ring tones**: $2.5 Billion industry worldwide (2003)
  - **Games**: 12.2 million Americans (2003)
  - **Web browsing**

Sources: Goldman Sachs (text messaging); CTIA (SMS traffic); Verizon Wireless (picture messaging); Roland Jones, *Cell Phone Gaming Gathers Momentum*, MSNBC, Aug. 17, 2004 (citing market research firm IDC) (mobile gaming figure).
Mobile Telephone Competition

Percent of U.S. Population

Number of Competitors in a County*

- 3 or more: 96.8%
- 4 or more: 93.0%
- 5 or more: 87.5%
- 6 or more: 75.8%
- 7 or more: 29.5%

*Facilities-based competitors

Source: Federal Communications Commission
Commissioner Kevin J. Martin

Growth in the Mobile Telephone Industry
(YE2002-YE2003)

- **Subscribers in 2003**: 161 Million (Up 13% from 142 Million in 2002)
- **Jobs in 2003**: 205,629 (Up 7% from 192,410 in 2002)
- **Invested as of 2003**: 146 Billion (Up 15% from $127 Billion in 2002)
- **Average Monthly MOUs in 2003**: 507 (Up 19% from 427 MOUs in 2002)
- **Price per minute**: DOWN 13% from $0.11 per minute in 2002

Source: Cellular Telecommunications & Internet Association; FCC.
Internet Growth—US Households Online

Commissioner Kevin J. Martin

High Speed Line Growth 1999-2004

High Speed Lines (millions)

Source: FCC’s High Speed Services for Internet Access Report, 6/04
Cable/DSL Availability Overlap

Cable and DSL Broadband Overlap Is Increasing

100% = 105 Million HH

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable and DSL</td>
<td>33%</td>
<td>53%</td>
</tr>
<tr>
<td>Cable Only</td>
<td>38%</td>
<td>23%</td>
</tr>
<tr>
<td>DSL Only</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>No Service</td>
<td>19%</td>
<td>19%</td>
</tr>
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</table>

Source: JPMorgan
FTTH Homes Passed

Source: Atlantic Engineering Group; Ex Parte Presentation, Received September 28, 2004, WC 01-338
COMMON CHALLENGES

- Seen by government as revenue opportunity
- Local vs. National service
UNIQUE CHALLENGES

- **Wireless:**
  - Interference Temperature

- **Broadband:**
  - Defining the Mass Market