

Wi-Fi CERTIFIED™ Makes it Wi-Fi

The Wi-Fi Alliance Regulatory Task Group

Meeting with the FCC OET
September 16, 2009



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Agenda



- **Wi-Fi Alliance update**
- **New developments**
- **Topics for discussion**

Wi-Fi Alliance snapshot



- International trade association of 300+ member companies across the ecosystem (service providers, device makers, silicon, software)
- Industry leader and collaboration forum, innovating for 10 years
- Enabling Wi-Fi adoption worldwide and inclusion in a wide array of devices, through testing, market building, and regulatory programs
- Wi-Fi CERTIFIED™ products deliver the best user experience and the latest security protections



Full list of member companies at www.wi-fi.org

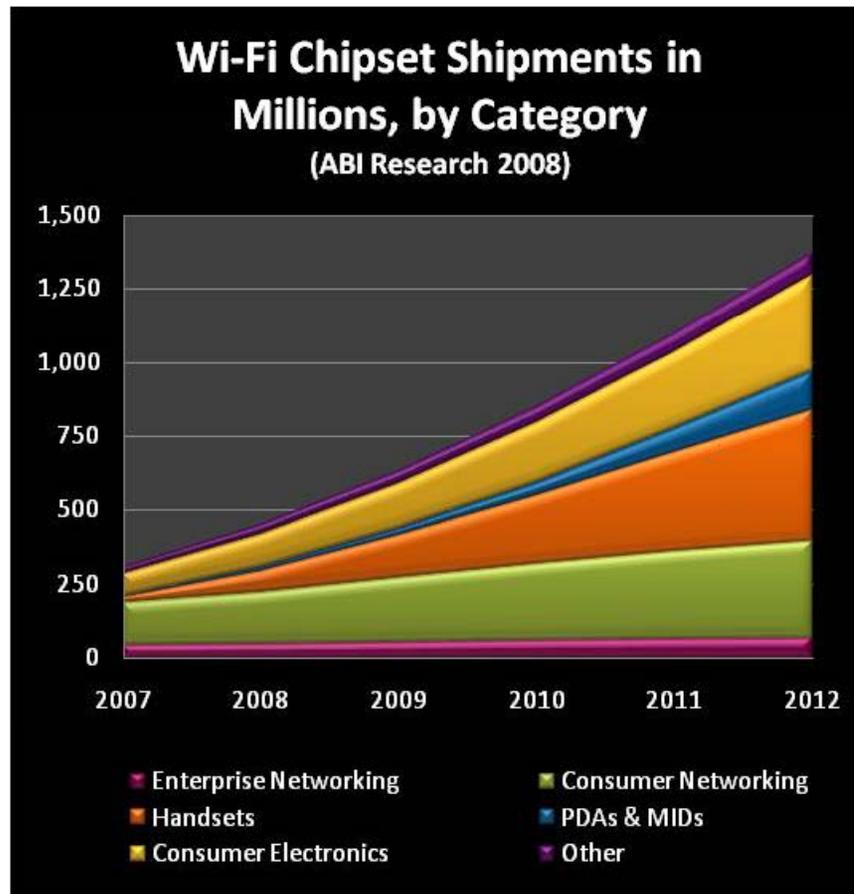
Wi-Fi today: An unrivaled success



- One of every 10 people in the world uses Wi-Fi for work and leisure
- Two billion cumulative shipments by end of 2009
- Double-digit growth year over year ... strong momentum continues
- Wi-Fi is becoming the default technology for large enterprise and small home networks alike



Handsets and consumer electronics drove 2008 Wi-Fi sales to another record



- 387-450M Wi-Fi devices shipped in 2008
- 650M - 1B devices expected to ship in 2011
- Highest growth in handsets, netbooks and MID's, consumer electronics
- 802.11n a key growth enabler in consumer and enterprise environments alike

802.11n Wi-Fi: An unprecedented success story



- The latest generation of Wi-Fi technology delivers substantial performance and range gains from 802.11a/b/g
- Wi-Fi CERTIFIED 802.11n draft 2.0 program began in June 2007
- More than 700 devices have been certified since that time
- About 45% of 2009 Wi-Fi chipset shipments will support 802.11n
- 60% will be 11n by 2012



802.11n is fundamental to Wi-Fi's continued growth in both the consumer and enterprise segments

Forthcoming updates to 802.11n program will preserve compatibility



- 802.11n is nearing finalization in IEEE – expected later this month
- Wi-Fi Alliance has monitored the market situation and has reaffirmed the existing certification program and will make some small additions
- All Wi-Fi CERTIFIED 802.11n products will interoperate with Wi-Fi CERTIFIED 802.11n draft 2.0 products in the same frequency band
 - Baseline features have not changed and draft-certified devices are now considered approved 11n certified
 - Consumers can count on Wi-Fi CERTIFIED products to interoperate and have the latest security features
 - All Wi-Fi CERTIFIED 802.11n draft 2.0 products will be able to use the approved 802.11n logo



Handsets with Wi-Fi: Increasing user demand and shipment growth



Wi-Fi is a differentiator for feature and smartphones:

- 77 percent of US users of Wi-Fi-enabled mobile phones report high satisfaction with their device – more than those without Wi-Fi (ABI Research, 2009)
- Sixty percent of Chinese Wi-Fi users are considering or planning to purchase Wi-Fi enabled handsets next year



Wi-Fi CERTIFIED is a carrier requirement and an enabler of growth in the phone segment:

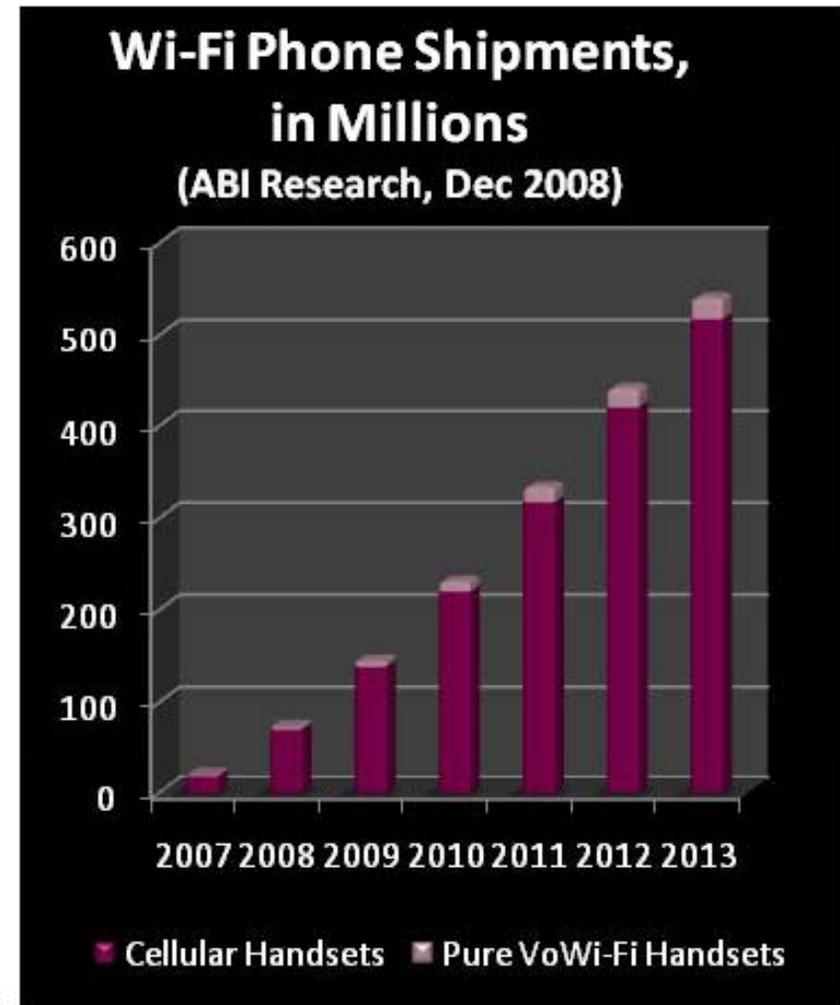
- 375 phones certified to date
- 2009 phone certifications on track to be ~200% of 2008 number

Handsets with Wi-Fi: Continued sales growth expected worldwide



Handsets are a major growth category for Wi-Fi worldwide:

- Installed base of Wi-Fi-enabled handsets is estimated at 102 million (In-Stat, 2009)
- Wi-Fi shipments in handsets will reach 300 million in 2011 (ABI Research, 2009)



WPA2®: Third-generation Wi-Fi security for home, hotspot, and large networks



- WPA2 implements the latest authentication and encryption technologies
 - Based on IEEE 802.11i standard
 - 802.1x authentication secures access to Wi-Fi network
 - Government-grade, 128-bit AES encryption protects data transmitted over the network
- WPA2 is required for all Wi-Fi CERTIFIED devices since 2005
 - More than 3200 products have been Wi-Fi CERTIFIED™ with WPA2
 - Personal version enabled with passphrase (PSK)
 - Enterprise version supports 802.1X/EAP server-based authentication
- New white paper on The State of Wi-Fi Security available now: www.wi-fi.org



Coming soon: Wi-Fi peer-to-peer connectivity



A new way to use Wi-Fi technology:

- Connect Wi-Fi devices to each other anywhere, *with or without a Wi-Fi network or internet connection available*
- Connect two or more devices, quickly and easily to enable a range of applications:
 - **Print** a picture directly from your camera
 - **Share** music directly with a friend
 - **Synchronize** contacts, music, etc.
 - **Display** pictures directly from your mobile phone on a television
 - **Play** a video game with friends on different devices
- Wi-Fi CERTIFIED industry-wide solution planned for 2010



Wi-Fi Alliance certification programs at a glance



Available today	Ahead
<p>Core PHY layer interoperability: 802.11 a/b/g plus next-generation 802.11n draft 2.0</p>	<p>802.11n: to align with the 802.11n standard, when finalized by IEEE (September 2009)</p>
<p>WPA2® (Wi-Fi Protected Access): Standards-based, government-grade security protections, additional EAP-types for enterprise</p>	<p>Voice-Enterprise, to deliver the best user experience in large Wi-Fi deployments</p>
<p>Voice-Personal: Best user experience with Voice over Wi-Fi in the home and small office setting</p>	<p>WMM® Admission Control, Quality of Service to specify admission to the network</p>
<p>WMM® Power Save: Advanced power-saving mechanisms for battery-operated devices</p>	<p>Wi-Fi Peer-to-Peer: Mechanisms to connect two clients directly without a network association</p>
<p>Wi-Fi Protected Setup™: ease set up of security-protected home and small office Wi-Fi networks</p>	<p>Extensions to Wi-Fi Protected Setup for easier setup of security in ad-hoc mode</p>
<p>CWG-RF (with CTIA): Performance mapping of RF in mixed-radio environment</p>	<p>Early stages / under development</p>
<p>WMM® (Wi-Fi Multimedia) Quality of Service: Prioritize latency-sensitive streams for multimedia applications such as gaming, voice and video</p>	<p>Mesh networks (802.11s) Wireless Network Management solutions Display solutions Tunneled Direct Link Setup (TDLS)</p>

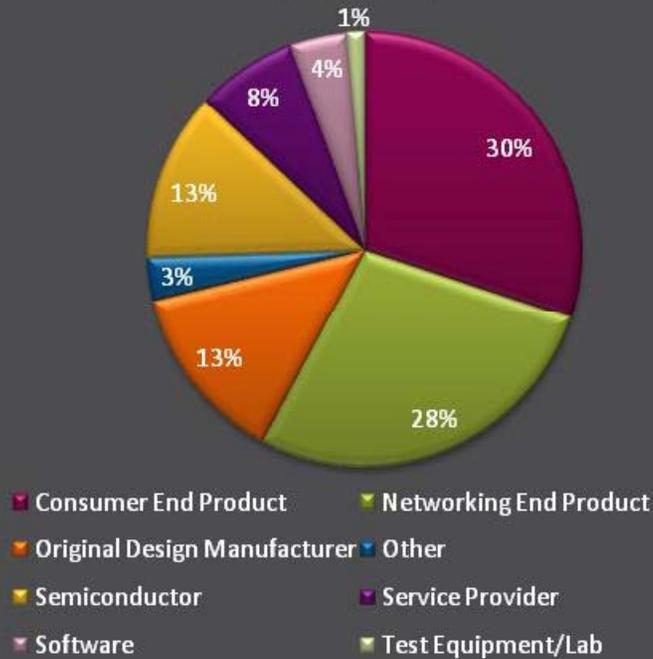
Worldwide authorized test lab footprint



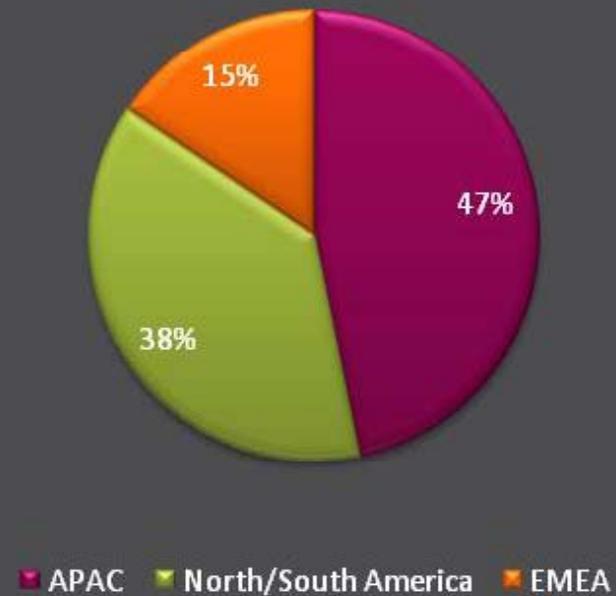
322 Wi-Fi Alliance members today



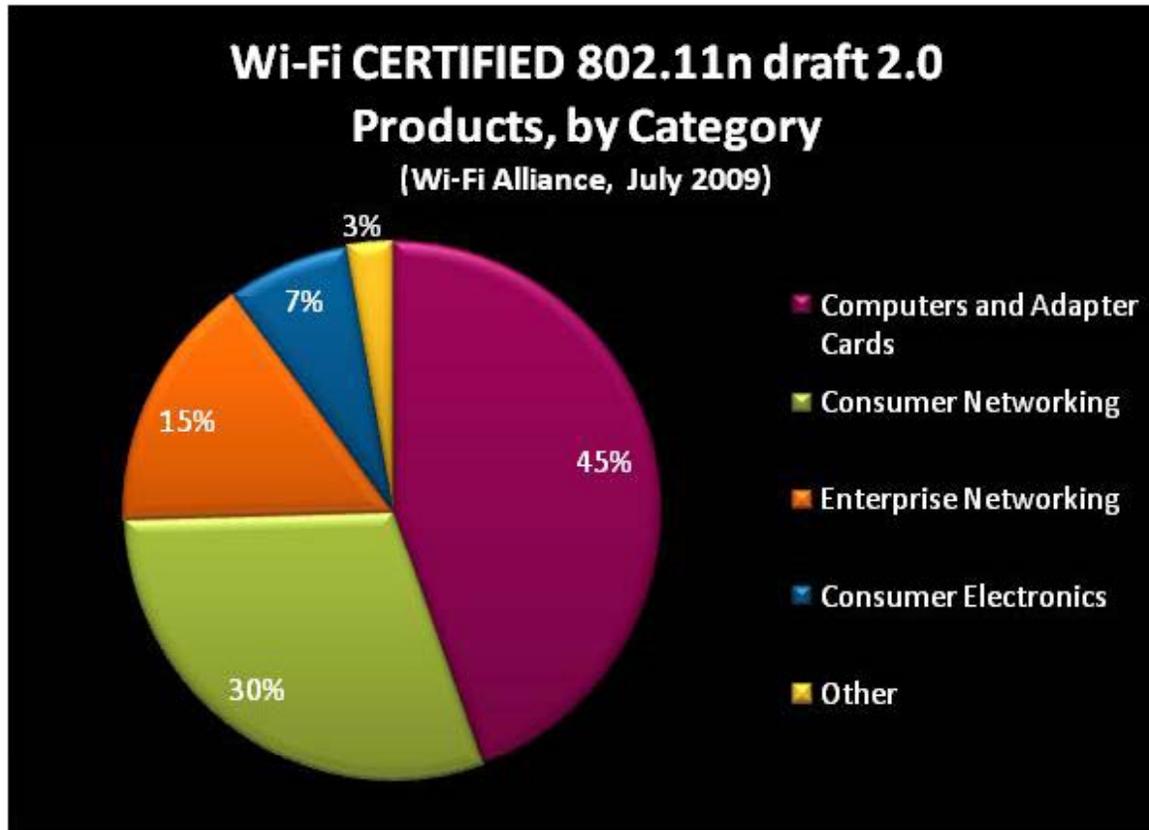
Wi-Fi Alliance Member Companies, by Segment (July 2009)



Wi-Fi Alliance Member Companies, by Region (July 2009)



More than 700 Wi-Fi CERTIFIED 802.11n draft 2.0 products to date



- 802.11n certifications now include more consumer electronics
- Media servers, players, and set top boxes are lead CE devices for 802.11n draft 2.0 products today; printers also growing
- 2009-2010 likely to bring increased 802.11n penetration into CE and handheld products

New Developments



- **IEEE-SA Ratifies 802.11n**
- **T-Mobile becomes the latest WFA Sponsor Member**

Topics for Discussion



- **Nationwide Broadband Plan**
- **TVWS database rules**
- **DFS testing**
- **NOI on Fostering Innovation and Investment in the Wireless Communications Market**