



The WiMAX Broadband Wireless Revolution

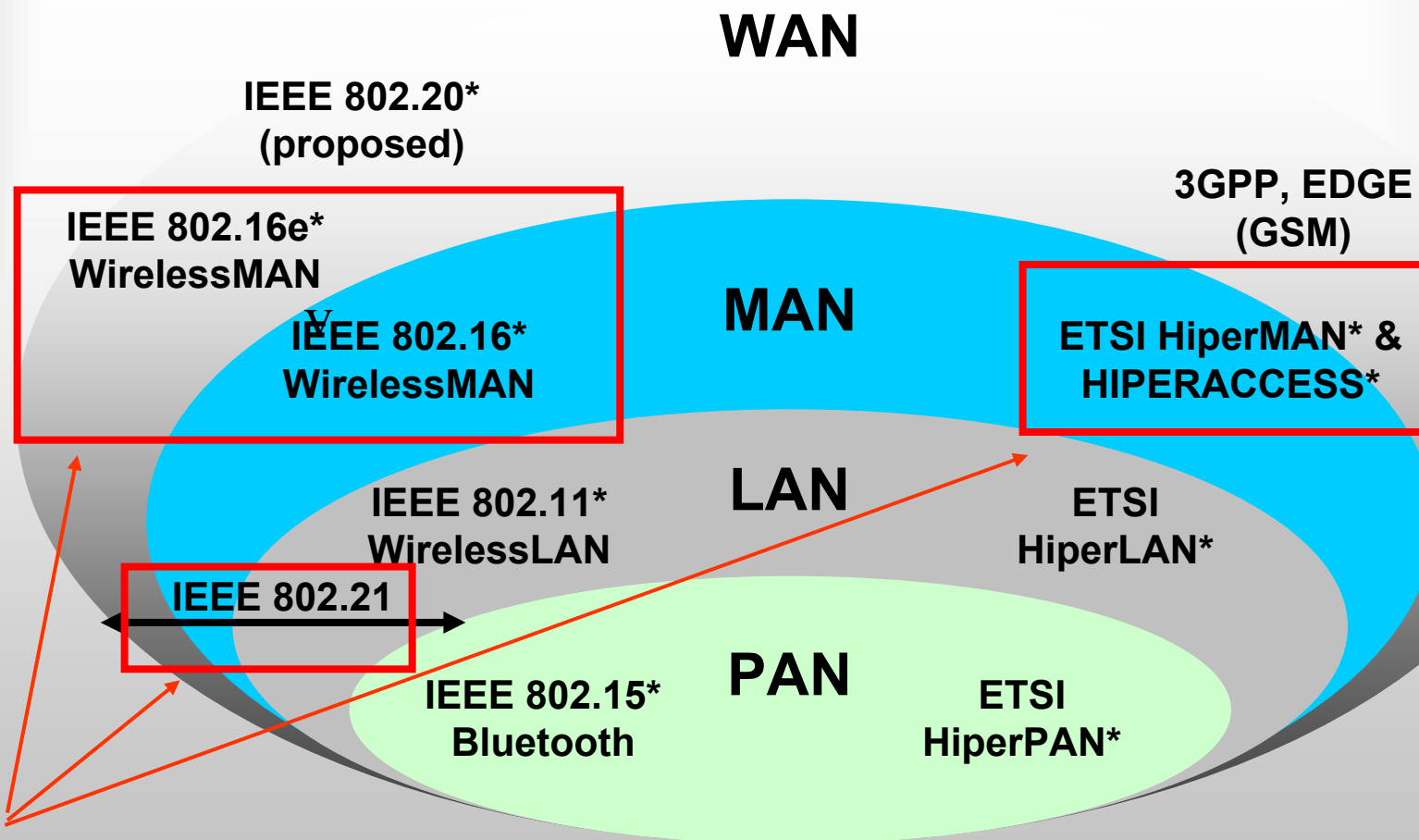
Dr. Mohammad S. Shakouri

WiMAX Board Member and Vice President

Mohammad.Shakouri@alvarion.com



Global Wireless Standards



WiMAX members contributing in these organizations

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The WiMAX Forum

- Charter: Certify equipment that conforms to the IEEE 802.16* & ETSI HiperMAN standard and is proven interoperable
- A non-profit organization comprised of
 - Broadband wireless access equipment manufacturers
 - Component suppliers (silicon, RF, antenna, software, test services)
 - Service providers (carriers, wireless ISPs)

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Scope of WiMAX

- Equivalent in purpose to Wi-Fi Alliance* for 802.11 or Cablelabs* for DOCSIS
- Based upon market requirements, reduce the breadth of the standard so that baseline interoperability can be achieved between vendors
 - Multi-vendor process to create Certification tests
 - Based upon ISO/IEC 9646 process
- Host interoperability events (“PlugFests”)
- Enable Certification on a worldwide basis
 - Provide WiMAX-Certified* stamp of approval

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2003 Highlights

- 6 members in Jan '03 -> 100 members in Apr '04
- Rekindled analyst reports & interest
 - ABI Research, IDC, In-Stat/MDR, META Group, Pyramid Research, Skylight Research, Tele-Analytics and Visant Strategies, Yankee Group.
- Major Carriers & WISPs paying attention...
 - >25% of WiMAX Forum are operators

WiMAX Certification Profiles

- **Currently 3 profiles in process:**
 - **3.4-3.6 GHz Licensed (ETSI, international MMDS)**
 - **2.5-2.7 GHz Licensed (US MMDS, ITU)**
 - **5.725-5.85 GHz License Exempt**
 - **Higher EIRP allowed in many countries because this portion of 5 GHz license exempt is targeted outdoor applications**

Depending on flexibility of radio design, bands within range of these profiles may be supported

Initial WiMAX System View

Operator Requirements

WiMAX addresses ... by ...

True Broadband Speeds

➤ Delivers > 10 Mbps peak data rate per user (shared bandwidth)

NLOS Operations

➤ Offers strong multipath protection (Indoor install CPE)

High Link Budget

➤ Systems will typically deliver >150-160 dB of link budget --- Typical cell Radius 5-10 km

High Number of Simultaneous Sessions

➤ Systems will generally offer 100's simultaneous sessions per channel

WiMAX System View

High Spectral Efficiency

- Offers >3.8 bps/Hz in 64QAM mode and cell radius >50 km in QPSK

Large Channel Bandwidth

- 3.5, 7MHz for 3.5GHz
- 10 or 20 MHz for 5.8GHz
- 5 MHz for 2.5 GHz

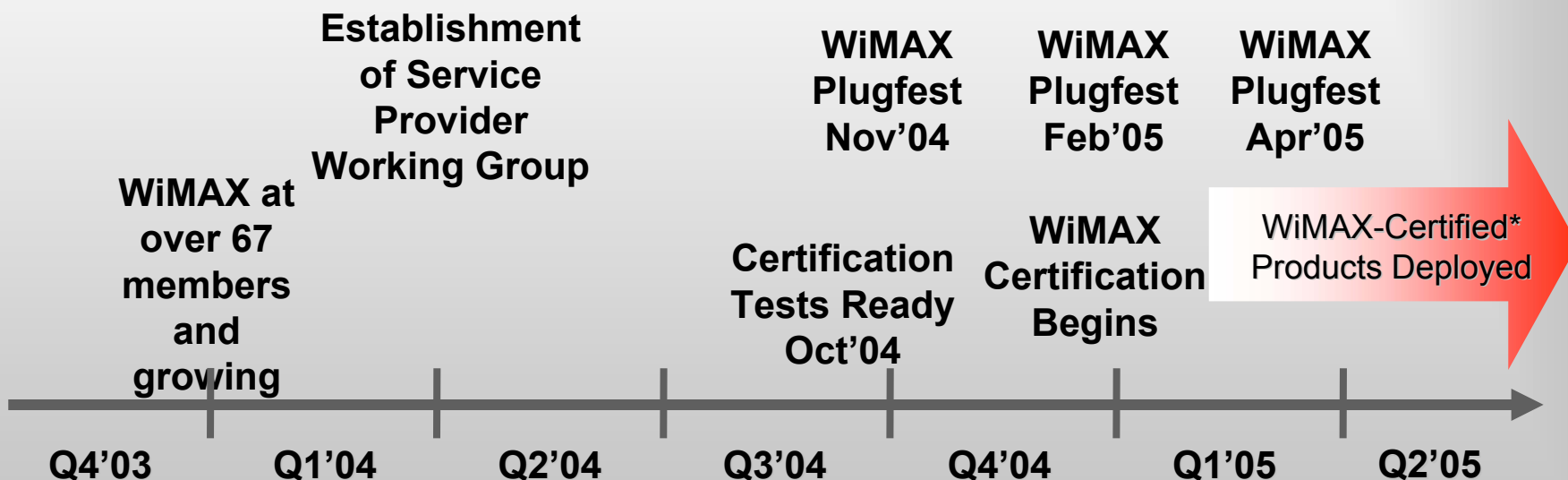
Low Latency

- System latencies will meet operator requirements for voice, video and data applications

IP Quality of Service

- Depending upon the system provider, full Class, Service, Protocol and Application based differentiation can be provided for IETF L3 – L7 protocols

Timeline



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How to Join

- Apply online at **www.wimaxforum.org**
- WiMAX is a contribution-based organization
 - Working Group attendance & contribution is what drives our group
 - Members can also join ad hoc groups (e.g., Technical, Certification, Regulatory and Marketing Working Groups)

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WiMAX Forum Overview Summary

- WiMAX is poised for strong adoption worldwide
- WiMAX is complimentary to WiFi and 3G as wide area portable broadband access solution
- WiMAX profile system will start getting deployed in early 2005 with WiMAX-Certified Equipment will be available in mid 2005
- Members who join now can still influence equipment requirements for the 1st wave of Certifications
- As standards evolves, WiMAX will develop new certification tests to ensure interoperability over time

Come and join WiMAX Revolution

www.wimaxforum.org