Broadband Wireless Mobile Air Interface

Call for Interest Session

March 12, 2002

Agenda

- Overview Presentation on Broadband Mobile Wireless Networking
- Q & A on Presentation and Tutorial
- Discussion on the proposal to form an Executive Committee Study Group
- Preparation of an Exec Committee presentation and ECSG motion
- Closure of Session

IEEE 802 Process and Timeline Review

• Establish ECSG	Start
• Obtain PAR	3-6 mo.
• Establish new Working Group	6 mo.
• Prepare draft standard	12 mo.
• WG ballot	15 mo.
• Sponsor ballot	21 mo.
• Standards Board Approval	24 mo.

Proposal for Executive Committee Study Group

Project Title

- Air Interface for Mobile Broadband Access Network
  - Scope: Fast Hopped OFDM Wireless Access Network Operating in the 450 Mhz to 3 Ghz Licensed Frequency Bands and Supporting Vehicular Mobility (Speeds to 200 mph)
  - Purpose: To enable rapid worldwide deployment and evolution of ubiquitous, cost-effective, interoperable, multi-vendor and multi-operator broadband mobile wireless IP data access networks.

5 Criteria for PARs

- Broad market potential
- Compatibility
  - Coexistance (not in 5 criteria yet, but coming)
- Distinct Identity
- Technical Feasibility
- Economic Feasibility

Broad Market Potential

- **Broadband wireless access, based on IP mobility, unlocks all Internet content to the general public, potential market is all Internet users.**
- **Business has become increasingly mobile and access to corporate Intranets is required from any place at any time. 802/ IP based networks provide access to all applications designed to be networked via TCP/IP**
- **Additional Applications:**
  - **Gaming**
  - **Entertainment**
  - **Telematics**

Distinct Identity

- **IEEE 802 presently has no project that supports vehicular mobility (Speeds greater than 5 mph and less than 200 mph).**
- **IEEE 802.11 supports wireless connectivity with mobility in a LAN environment.**
- **IEEE 802.16 supports fixed access to the WAN.**
- **The specification produced by this project will support mobile wireless MAN access at vehicular speed.**

Technical Feasibility

- **The proposed solution relies on IP and OFDM technologies. These technologies are mature and have been used in both LAN and Fixed Wireless applications with success.**
- **Silicon (ASIC) technologies available.**
- **Complexity within scope of current technologies**

Economic Feasibility

- Well known cost factors
- Reduced system cost by leveraging existing IP Core Network.

IEEE 802 Wireless WGs

	802.11	802.15	802.16	802.XY
Spectrum	Unlicensed	Unlicensed	Licensed Unlicensed	Licensed
Freq. Bands	2 Ghz	Various depending on application	10-66 Ghz 2-11 Ghz	450 Mhz – 3Ghz
Range	Local Area	Personal Space	Metropolitan Area Access	Metropolitan Area Access
Mobility Support	Portability Local Roaming	Personal Space Connector Avoidance	Fixed	Vehicular Speed Mobility Inter-Metro Roaming
Station Power	Battery	Battery	Mains	Battery
LOS/NLOS	NLOS	NLOS	LOS (10-66 Ghz) NLOS (2-11 Ghz)	NLOS
Group Charter	PHY and MAC for LAN	PHY and MAC for PAN	PHY and MAC for Fixed Pt.-Mpt. Wireless Access	PHY and MAC for Vehicular Speed Mobile Access Networks

Proposed Next Step

- Presentation to Executive Committee based on content of previous slides, requesting creation of an Executive Committee Study Group to:
  - Develop PAR
  - Complete “Five Criteria”

  for the formation of a new working group to develop a Broadband Mobile Wireless Access Network standard.