

PAR Proposal:
**Standard for Broadband
Wireless Access (BWA)
Systems**

Roger B. Marks, Chair

**IEEE 802 Executive Committee Study Group
on Broadband Wireless Access**

History in Brief

- **July 1998**
 - **Marks attended 802 Plenary (La Jolla); met with Carlo**
- **August 9-10, 1998**
 - **Informal meeting with 50 people**
- **November 9-10, 1998 (802 Plenary in Albuquerque)**
 - **BWA Tutorial; BWA meeting with 41 people**
 - **802 approved Executive Committee Study Group on BWA**
- **January 13-15, 1999**
 - **First BWA Study Group meeting (66 people, 49 companies)**
 - **co-located with 802.11 and BRAN**
 - **wrote PAR on interoperable BWA system**
 - **formed 4 Task Groups**
- **March 9-11, 1999**
 - **meeting for three days with 802 Plenary**
 - **proceeding with second PAR on coexistence**



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Standards efforts from Europe, Japan and U.S. coalesce around gigahertz networks

Groups eye unified broadband wireless specs

By Loring Wirbel

ORLANDO, FLA. — Developers took the crucial first steps last week in synchronizing global standards for all broadband wireless systems, from 5 GHz to 50 GHz and beyond, as standards bodies from the United



States, Europe and Japan convened here. While strong differences of opinion persist over physical interfaces and data-link structures, the meeting advanced the goal of a common infrastructure between in-building wireless LANs and new, micro- and millimeter-

wave broadband networks with a cellular-like infrastructure.

Wide-area schemes showed the strongest signs of convergence, though some wrinkles must be ironed out. Among local-area networks, separate U.S. and European wireless offerings continue to resist harmonization, and a nascent class of "personal-area" wireless links still occupies a relatively undefined spot at the fringes of interoperability.

The IEEE's 802.11 wireless-LAN working group and

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Jan. 13-15 Attendance (p. 1)

- **3Com (2)**
- **Alcatel USA**
- **AMP, Inc. (3)**
- **Andrew Corporation**
- **Angel Technologies Corp. (2)**
- **AT&T**
- **Belstar Systems Corp.**
- **BNA Systems**
- **Bosch Telecom, Inc. (2)**
- **BreezeCOM**
- **Broadband Ventures**
- **C&W Systems, Ltd.**
- **California Amplifier, Inc.**
- **CircuitPath Network Systems**
- **ComStar Communications**
- **Dot.Wireless**
- **Ensemble Communications (2)**

Jan. 13-15 Attendance (p. 2)

- **Ericsson Inc. (2)**
- **Eurobell**
- **Filtronic Solid State**
- **Harris Corporation (2)**
- **Hewlett-Packard Company**
- **HRL Laboratories**
- **Industry Canada (2)**
- **Integrity Communications**
- **Kyocera DDI Institute**
- **LCC International Inc.**
- **Logimetrics, Inc.**
- **Lucent Technologies (2)**
- **Millitech Corporation**
- **MMAC**
- **Motorola Inc. (2)**
- **Netro Corpopration**
- **Newbridge Networks Corp.**

Jan. 13-15 Attendance (p. 3)

- **NIST/N-WEST**
- **Nortel Networks (3)**
- **NTT Electronics Corp. (NEL)**
- **Philips Broadband Networks (2)**
- **Raytheon Systems Company**
- **SiCOM, Inc.**
- **Siemens Information and Communication Networks**
- **Stanford Wireless Broadband (2)**
- **Technical Strategy Associates**
- **Telegen Ltd.**
- **TRW**
- **WaveSpan Corporation**
- **Wavtrace, Inc. (2)**
- **WinStar**
- **Wireless Communications Association Intl.**

Study Group Leadership

- **Scott Marin, Bosch Telecom: Secretary**
 - **George Fishel: AMP, Acting Secretary (Orlando)**
- **Paul Khanna, HP: BRAN Liaison**
- **Task Group Leaders**
 - **Sytems Req: Gene Robinson, Angel Technologies**
 - **Coexistence: Leland Langston, Raytheon**
 - **MAC: Jim Mollenauer, Technical Strategy Assoc.**
 - **PHY: Jay Klein, Ensemble Communications**
- **Additional advisor on 802 issues (Orlando)**
 - **George Eisler, Dot.Wireless**

PAR Proposal

- **TITLE: Standard for Broadband Wireless Access Systems**
- **SCOPE: This standard includes specifications for the air interface, including the physical layer and media access control layer, of fixed point-to-multipoint broadband wireless access systems providing multiple services operating in the vicinity of 30 GHz. These specifications will be broadly applicable to systems operating between 10 and 66 GHz.**

PAR Proposal

- **PURPOSE: To enable rapid worldwide deployment of innovative, cost-effective, and interoperable multivendor broadband wireless access products. To facilitate competition in broadband access by providing alternatives to wireline broadband access. To facilitate coexistence studies, encourage consistent worldwide allocation, and accelerate the commercialization of broadband wireless access spectrum.**
- **Target Completion Date to RevCom: January 31, 2001**

Five Criteria in Brief

1. Broad Market Potential

- **BWA spectrum has been licensed in dozens of countries. Current deployments demonstrate that BWA networks can offer a cost-effective alternative to wired networks. However, user node equipment costs remain too high for widescale service to smaller users.**

2. Compatibility

- **The proposed standard will conform to the 802 Functional Requirements Document, with the possible exception of the Hamming distance.**

Five Criteria in Brief

3. Distinct Identity

- **The system is a metropolitan-scale public access network, unlike a wireless LAN, which typically is operated by a single organization over smaller distances and has less-stringent requirements for system integrity and resistance to unauthorized usage.**

4. Technical feasibility / 5. Economic feasibility

- **Similar proprietary have been deployed in scores of cites. Companies have spent hundreds of millions of dollars to acquire spectrum rights.**

PAR Process This Week

- **Present to SEC and 802 Plenary on Monday**
- **Open offer to visit Working Groups**
 - **let me know to schedule a visit**
- **Comments due to me at 5 pm Tuesday**
- **Revised PAR to SEC by 5 pm Wednesday**
- **Present revisions to SEC on Thursday**