802.16.3 As an Open PHY standard

IEEE 802.16 Presentation Submission Template (Rev. 8)

Document Number:
IEEE 802.16.3p-00/03

Date Submitted:
2000-07-09

Source:
Avi Freedman
InnoWave - ECI Telecom
4 Hashiloach St.
Petach-Tikva, Israel, 49104

Voice: +972-3-926 3669
Fax: +972-3-926 3636
E-mail: afreed@ecitele.com

Venue:
IEEE 802.16 meeting, session #8, La Jolla, CA, USA

Base Document:
IEEE 802.16.3p-00/03 <http://www.wirelessman.org/sub11/contrib/802163c-00_03.pdf>

Purpose:
Suggest an alternative way of developing a standard that will allow an open and flexible physical layer.

Notice:
This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

Release:
The contributor grants a free, irrevocable license to the IEEE to incorporate text contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.

IEEE 802.16 Patent Policy:
The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures (Version 1.0) <http://ieee802.org/16/ipr/patents/policy.html>, including the statement “IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing the standard.”

Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <mailto:r.b.marks@ieee.org> as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/letters>. 
Why Interoperability

- Reduce costs following mass production
- Allows network design using standard components
- Multi-vendor supply
- Increased market confidence
Why not interoperability

- Interoperability – not an essential requirement
- Experience with NB–FWA
- Operator responsible for both ends
  - Careful planning and professional installation is required.
  - Multi-dwelling units
- Operators look for integrated solutions
Why not Interoperability

- Wide scope of requirements
  - Frequency range
  - Services
  - Platforms

- Conflicting interests of vendors and operators

- Long time to develop a standard
Possible Ways Forward

- Cutting options by vote
  - Fast
  - Decrease support for the standard
  - Technically inferior standard

- Building up consensus
  - Long time to develop

- Leave options in – let the market decide

- Etiquette standards
Etiquette Standards

- Allow several options and a protocol to switch between them
- 802.16.3 -compliant equipment does not have to support each option.

- Require the following attributes
  - Parameters – different for each options
  - Revisions – for future changes
  - Extensions – new protocols that replace the old protocols
  - NSF – non standard functions – for proprietary
Advantages of Etiquette

- Avoids standard battles
- Allows “compatibility over time”
- Allows market segmentation
- Allows compatibility among segments
- Follows the development of software defined equipment
- Options are unavoidable, let us use them
  - Experience in UMTS, DVB, H.323, and other standards
Advantage to 802.16.3

- Better solutions for specific scenarios
- Versions for large markets / big companies as well as niche markets / small companies
- Shorten time to publish
- Reduce operator risks
- Provide support for future development
Way Forward

- Take the “etiquette approach” in consideration
- Add the basic “mechanisms” as requirements
- If found useful, define and develop a protocol for interoperability channels
- Listen to Ken Kretchmer, in RAWCON 2000