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Title:

Merging the 2 MAC proposals

Date Submitted:

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Source:

Jay Klein

Venue:

Session #7

Purpose:

This proposal should be used as a baseline for forming draft MAC standard for BWA

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Merging the 2 MAC proposals for IEEE 802.16.1

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IEEE 802.16.1 Session #7 May 2000

Comparing between the 2 MACs

- **D+**
 - Based on DOCSIS
 - Residential-Ethernet over cable plant
 - Proven record for cable service
 - Changes mainly due to:
 - Additional protocol support (ATM)
 - Wireless environment
 - 802.16 feature enhancements/options
- **E+**
 - “Clean sheet” approach
 - Roots coming from other wireless access and cable modem standards
 - Designed for Wireless
 - Designed in advance for multi-protocol Services

The Idea

- **Leverage on DOCSIS's "foundation"**
 - **Solid base line**
 - **Documentation**
 - **Experience**
 - **Platforms**
 - **Ethernet networking**
 - **The most popular service deployed by DOCSIS based equipment**
- **Benefit from the E+ proposal "future"**
 - **Protocol "Plug-ins"**
 - **Convergence layers per protocol**
 - **Inter-working Function**
 - **Layering integrity maintained, no need to "adjust" MAC for new applications**
 - **Enhanced performance**
 - **Larger pipes require different "intelligence" distribution in network**
 - **Multi-customer buildings is a reality (i.e., MDUs, Industrial parks)**
 - **More customers and services behind single terminal**
 - **Integration with ETSI-BRAN**

The Guidelines

- **Use DOCSIS document baseline**
 - Ethernet transport supported
 - Enhancements for wireless
 - Maintain operation with basic formats
- **The E+ MAC is protocol agnostic**
 - Protocol agnostic support based on E+
 - All protocols use this mode
 - ATM, IP, other
- **The E+ MAC supports Semi-distributed Bandwidth Allocation**
 - Terminal may or may not re-allocate granted bandwidth according to internal scheme
 - Crucial for future network evolution
 - Use the E+ MAC core
- **The E+ MAC is PHY mode B aware**
 - Use the E+ MAC core

What goes into the Draft ?

- **D+ document as baseline**
- **E+ document contributes to the D+ document:**
 - **Chapters 3, 4 & 5.1 as whole**
 - **Some drawings in the D+ overview need to integrate drawings of chapter 2 in the E+ proposal**
- **Agnostic operation defined clearly by reference**

Are we done ?

... NO !!!

- Editorial work
 - Some drawings need to be changed
 - Deletions of relevant sections in the D+ document
 - Language resolution “MUST”, “SHALL”, “SHOULD”
- Header structure enhancements & clean-up
- PHY support
 - Base line for mode B in the E+ core
- Unify methodology
 - Allocation
 - Encryption operation modes
 - Etc.
- Remove non-relevant “stuff”

A PLAN IS NEEDED TO FORM 1st DRAFT

The Plan

- 1st attempt merge
 - Time frame: **NOW**
 - Outcome: Combined document
 - D+ base, E+ core added
- Editorial committee formed,
 - Time frame: **NOW**
 - 2 from D+, 2 from E+
 - List working items requiring document changes according to guidelines
 - Committee must operate by the list and resolve all issues

The Plan – *cont.*

- Editorial meeting
 - Time frame: <4 weeks, *prior to interim*
 - Outcome: 2nd attempt merge
 - Submitted to WG (published) 1 week prior to interim
- Interim
 - Time frame: 1st half of June
 - Outcome: 1st MAC draft, delivered to the WG