

802.16 Medium Access Control Task Group CALL FOR CONTRIBUTIONS - Session #4

Deadline: 29 October, 1999

The Medium Access Control (MAC) Task Group of the IEEE 802.16 Working Group on Broadband Wireless Access is preparing to define the MAC layer protocols for a broadband wireless access network specification. The specification will be developed in accordance with the "Development Plan for the 802.16.1 Air Interface Standard" (Document IEEE 802.16-99/05 <http://grouper.ieee.org/groups/802/16/docs/99/80216-99_05.pdf>). As that document details, the specification will be based on submitted contributions, with increasing detail required as the process progresses. Mergers and improvements will be encouraged, with final selection scheduled for June 2000.

The MAC Task Group invites the submission of initial contributions representing proposed MAC solutions. Contributors will be granted agenda time during 802.16 Working Group Session #4 (8-11 November 1999 in Kauai, Hawaii, USA) to present and discuss the merits of their proposals. **Only contributors to Session #4 will be eligible for invitation to submit a contribution to Session #5.**

Each proposal will be allocated equal agenda time on Wednesday, November 10. If time permits, the allocations will be 15 minutes of presentation followed by 15 minutes of discussion.

Submissions must follow the guidelines below:

- Include a descriptive title.
- Include an overview that describes functions, including interfaces to other layers.
- Provide a reference model including layering and mapping of functionality.
- Include method of over-the-air transport (IP, ATM, MPEG, etc.), granularity of bandwidth assignment, frame structure, and overhead characteristics.
- Explain how the submitted MAC relates to existing standards, such as 802.14, DOCSIS, DVB, or others. If it is based on an existing standard, what differences occur due to BWA characteristics?
- Describe the benefits of the proposed MAC, including any unique features.
- Describe any drawbacks of the proposed MAC.
- Include a statement on intellectual property rights and how 802.16 may utilize the proposed MAC in a standard.

The proposals will be evaluated based on criteria in the Evaluation Table below. However, at this initial stage, contributions are not expected to address in detail the discussion items in that table, instead aiming for the more general description as outlined above. Each of the 106 Voting Members of 802.16 are eligible to participate in the evaluation, if present. Submitters receiving a combined score of 6 or better (out of 10) in *any criterion* in the Evaluation Table will be invited to submit more a detailed contribution for Session #5 (January 10-14 in Dallas/Richardson, Texas, USA). Note that submissions need *not* represent a complete MAC but may focus on components such as contention resolution, scheduling, etc.

Contributions will be considered only if submitted using Revision 4 or higher of the 802.16 Document Submission Template <http://grouper.ieee.org/groups/802/16/docs/802_16_template.doc>. The template requires a cover page and a narrative.

Submissions will be considered non-confidential and will be posted, as soon as possible following receipt, for public access on the 802.16 Web Site <<http://grouper.ieee.org/groups/802/16>>.

Email your contribution to the 802.16 MAC Task Group Acting Chair, Lou Olsen <louis.olsen@teligent.com>, with a copy to 802.16 Chair Roger Marks <marks@nist.gov>, for receipt by the deadline of 29 October 1999.

802.16 MAC Task Group: Session #4 Evaluation Table

#	Criterion	Discussion
1	Meets system requirements	How well does the proposed MAC protocol meet the requirements described in the current version of the 802.16 System Requirements (Document IEEE 802.16s0-99/n)? This document can be found at: http://grouper.ieee.org/groups/802/16/sysreq/contributions/80216s0.pdf
2	MAC Delays	Is it possible to bound the delay of the proposed MAC protocol?
3	Payload and bandwidth efficiency	How well does the overhead due to the proposed MAC PDU headers allow for efficient user data transfer over the 802.16 air interface? Is the proposed MAC protocol designed such that the MAC signaling is efficient in terms of not requiring excessive overhead? How well does the proposed MAC protocol provide the mechanisms for fair allocation and sharing of the bandwidth among users?
4	Simplicity of implementation/cost	How well does the proposed MAC protocol allow for an implementation that is simple and generic enough that it is likely to be accepted by industry?
5	Scalability	Does the MAC protocol support a broad range of operational bandwidths and number of connections?
6	Service Support Flexibility	Does the MAC protocol support the services mentioned in the 802.16 System Requirements (Document IEEE 802.16s0-99/n) and is it open to the possible support of other services?
7	Robustness	Can the MAC protocol continue normal operation when presented with various unexpected events, e.g., corrupted MAC header, undefined MAC message (other protocol)? Is the MAC protocol able to recover from events such unexpected shut down or loss of link?
8	Security	How well does the MAC protocol provide security mechanisms to meet the System Requirements?
9	Physical Channel Configurability	Does the MAC protocol provide mechanisms to control the PHY parameters?
10	Maturity	Does the proposed MAC protocol have data to demonstrate its ability to operate in an actual system that is representative of the BWA networks target for 802.16?
11	Convergence with existing technologies	How simple is it to adapt the proposed MAC protocol to existing technologies?
12	Ability to work with physical layer variations, e.g., duplexing, constellation	How independent is the proposed MAC protocol of the PHY protocol?
13	Mean access delay and variance	No submission required for Session #4; will address later
14	Sign-on process	No submission required for Session #4; will address later
15	Verifiability	No submission required for Session #4; will address later
16	Adequacy of management functions	No submission required for Session #4; may address later