

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >		
Title	<b>Proposal for 802.16j TG Process and Schedule document</b>		
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Re:	Submitted in response to Call for Contributions IEEE 802.16j-06/001 issues on 2006-04-06 by Roger Marks to address the "Task Group Process" topic.		
Abstract	In this contribution we specify the information that should be covered by the 802.16j Process document and propose an outline for this document. We propose a structure for the process that we believe the 802.16j TG should follow. We propose that the TG agree on the structure of the process first and then develop the details of the process and schedule in a subsequent meeting.		
Purpose	This contribution is proposed as the basis for the 802.16j Process Document. The process described in this contribution is proposed as the process that the 802.16j TG should follow.		
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.		
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## Proposal for 802.16j TG Process and Schedule document

### Introduction to this Contribution

This contribution is submitted in response to the call for contributions (IEEE 802.16j-06/001) issued on April 6, 2006.

In this contribution we address the following topics:

We propose an outline for the 802.16j Process and Schedule document. This contribution is organized according to the proposed outline for the 802.16j Process and Schedule document.

We specify the TG documents that need to be developed in support of the development of 802.16j.

We propose the structure for a process for developing the 802.16j draft.

The following topics (related to TG process and schedule) are not covered in this contribution.

Details of the process for developing the 802.16j draft are not covered. Our proposal is that the TG first agree on the structure of the process, and then work on the details in the next meeting.

Process for determining when the 802.16j draft is ready for letter ballot is left for further study

Process for conducting letter ballot is left for further study

TG schedule is left for further study.

### Next Steps

We are asking the TG to do the following:

Agree to use this contribution as the basis for the 802.16j Process and Schedule document

Agree to develop the set of TG Supporting documents presented in this contribution

Agree to the process structure specified in this contribution

Work together to fill in the remaining sections of this document in the next meeting.

The remainder of this contribution is arranged according to the proposed outline for the 802.16j Process document.

## 802.16j Process and Schedule

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## Overview

The definition of the 802.16j TG Process specifies the following major aspects of TG operation.

Specification and definition of the documents that the TG will develop in order to help guide the process of developing the 802.16j standard.

Process for developing the draft 802.16j draft

- Guidelines for issuing calls for contributions
- Guidelines for preparing meeting agenda
- Guidelines for process of determining if a contribution is to be included in the draft

Process for determining when the 802.16j draft is ready for letter ballot

Process for conducting letter ballot

Criteria for making changes in the process

## TG Supporting Documents

Before the 802.16j TG begins issuing calls for contributions and submitting/selecting contributions, the TG must develop the following documents. These documents are critical to the smooth functioning of the TG. They provide the basis for the 802.16j standard and constitute an agreement by the TG regarding the detailed scope of the standard and the process the TG agrees to follow to develop the standard.

**TG Process and Schedule** – This document specifies the process that the TG agrees to follow and the target schedule for developing the standard.

**Terminology** – The terminology document captures the key technical terms that the TG agrees to use in the 802.16j standard. The content of this document is used as the basis for the definitions section of the 802.16j standard. This document is developed up front in order to allow the authors of contributions to use the common set of terms from the start, making it easier to understand, evaluate, and merge contributions.

**Usage Models** – This document describes the major usage models supported by the 802.16j standard. The usage models specified in this document provide a more detailed specification of the scope of the standard that will be developed.

**Technology Requirements** – This document specifies the detailed requirements that must be satisfied by the 802.16j standard. This document is a further refinement of the scope of the project. It captures requirements derived from the usage models described in the Usage Models document. This document serves as part of the criteria for determining whether a draft is complete and ready for balloting.

**Technical evaluation criteria** – This document describes the manner in which the TG will evaluate / compare the goodness of competing contributions. This document captures the following types of information:

- Simulation model and assumptions
- Traffic models
- Channel models
- Performance metrics

**802.16j draft standard Table of Contents (TOC)** – This document captures the initial anticipated outline of the 802.16j standard. This document is developed up front in order to allow contributions to target specific sections of the draft, making the job of editing the draft more manageable. When completed, this document becomes the first baseline draft of the standard. As part of the process of developing the TOC, the technical editor should be empowered to incorporate non-controversial contributions into the document from the start. This will expedite the process of developing the document.

## TG Process

### Overview

The process that we are proposing consists of the following key phases. We provide a brief overview of the phases here. The process is described in detail in subsequent sections of this document.

TG Organization Phase – TG develops supporting documents described above.

Draft Development Phase – TG works to develop the contents of the draft standard.

- Contributions are solicited on individual technical areas / topics, as opposed to complete proposals.
- The TG agrees on a list of topic areas and a rough order in which they will be handled. Agreeing on the topic areas and order is critical because it drives the development of the draft in a logical, organized fashion and allows members to work ahead of the TG meetings, knowing the rough order in which areas will be considered by the TG.
- The grouping/ordering of topics is used as a guideline for determining the topics to consider at each TG meeting. Members are encouraged to submit contributions early. Chair and vice chair use the phases and the contents of the submitted contributions to determine the topics/contributions to be covered in each meeting.
- Contributions approved for inclusion into the draft get incorporated into the draft after each meeting.

Ballot Phase – the draft is taken through letter ballot and sponsor ballot and becomes a standard.

### Detailed Process Description

Figure 1 below illustrates the process we propose for the TG. The first step in the process is to develop and agree on the various TG documents listed above. This step is labeled **Development of Preliminary TG Documents** in the figure. In this step the TG develops the documents specified earlier in the document. This step is likely to take more than one meeting. The TG must agree on the contents of the documents, as they serve as guidelines for the work that the TG will perform. As mentioned earlier, one of the documents in this list is the TG process. A key section of this document is the list of technical topics areas that the TG will consider and the order in which the TG agrees to consider them. At the end of this step, the group is ready to accept technical contributions.

At this point, we start with the TOC as the initial baseline document. At the end of each meeting (before the start of the next meeting), the chair and vice chair issue a call for contributions for a set of topics on which the TG will focus in the next meeting. The process of issuing a call for contributions is described in two steps in the figure. The first step is labeled **Determination of Topics of Interest for TG Meeting**. In this step the chair and vice chair determine the topics areas that will be covered in the next meeting. This determination is made based on the list of technical topic areas, the progress made in the previous meeting, and any recommendations from the TG that were approved during the previous meeting. The list of topics is used as a guideline. The chair and vice chair can change the order if there is a need. The second step is labeled **Call for Contributions for TG Meeting** in the figure. In this step the chair and vice chair issue the call for contributions for the next meeting. The call for contributions is as specific as possible, specifying the topic areas to be covered and narrowing the scope within topic areas if needed.

Members submit contributions prior to the meeting. In the figure, this is represented by the step labeled **Submission of Contributions**. Members are free to submit contributions on any topic, but they should understand that the agenda for the meeting will give higher priority to contributions that cover topics solicited in the call for contributions. Contributions are written relative to the text in the current baseline draft. They should specify changes to be made to existing text, or additions to be made to the sections in the draft.

After the deadline for submitting contributions has passed, the chair and vice chair create an agenda for the meeting, based on the call for contributions and the contributions that were received. In the figure this is represented by the step labeled **Publication of Meeting Agenda**. The chair and vice chair schedule the contributions that fall into the scope of the current call for contributions as 1<sup>st</sup> or high priority in their meeting. Contributions that are outside of the scope are scheduled after the contributions that are in scope and are presented only if there is time. The chair and vice chair have the discretion to arrange the schedule as it makes sense. They should attempt to schedule parallel ad-hoc meetings on specific unrelated topics whenever possible. The proposed meeting agenda needs to be approved by the TG at the beginning of the meeting.

In the meeting the TG evaluates each presented contribution. This is represented by the step labeled **Presentation of Contributions** in the figure. Members present their contributions in the TG meeting in the order specified in the agenda. Also specified in the agenda is the overall time allocated for both presentation and discussion of each contribution. At the end of the discussion, TG members can make a motion to incorporate a contribution into the draft. If the technical concepts in the contribution conflict with existing text or contributions that have been previously approved for inclusion, the technical editor should inform the TG that this is the case. The chair and vice chair should guide members to harmonize their contributions in order to remove technical conflicts. If a member makes a motion to incorporate a contribution into the draft and the motion is approved with 75% majority of the members present in the meeting (as is the case with motions in the TG in general), the contents of the contribution is incorporated into the draft by the technical editor (after the meeting). If a motion to include a contribution into the draft is not brought forward, the chair and vice chair should conduct a straw poll to provide feedback to the proposing member.

Throughout the process of presenting contributions and voting on motions to include them into the draft, the chair and vice chair should encourage members with similar, conflicting, or complementary contributions to try to harmonize their inputs outside the main TG meeting. The chair and vice chair have the discretion to allow members who have harmonized their contributions to form a new joint contribution, to submit it as a late contribution and to suggest modifications to the agenda to allow these contributions to be discussed even ahead of other, already scheduled, contributions. If the new joint contribution is completed after the end of the TG meeting, it shall be submitted as a new contribution, and the chair and vice chair have the discretion to give a higher priority to treat this contribution in the next meeting.

At the end of the meeting, the technical editor takes the contents of all contributions that were approved for inclusion into the baseline draft and incorporates them into the draft. The resulting draft becomes the new baseline and subsequent contributions are written assuming that baseline. In the figure, this is represented by the step labeled **Incorporation of Approved Contributions into Baseline Draft**.

After each meeting, the chair and vice chair determine if the new baseline draft has met the criteria for going to letter ballot. The criteria are decided by the TG as part of the development of the TG process. In the figure this step is represented by the step labeled **Assessment of Readiness for Ballot Stage**. If the draft is not ready, the process loops back to the **Determination of Topics of Interest for TG Meeting** step. The loop repeats for each meeting until the draft is ready for letter ballot.

If at the end of a meeting, the TG agrees that the draft has met the criteria for entering the balloting stage, the chair or VC are empowered to make an appropriate motion in the 802.16 to begin the balloting process. In the figure, the balloting process is represented by the step labeled **Balloting Process**. This step is currently a placeholder for the ballot process to be followed by the TG. This is left for further study.

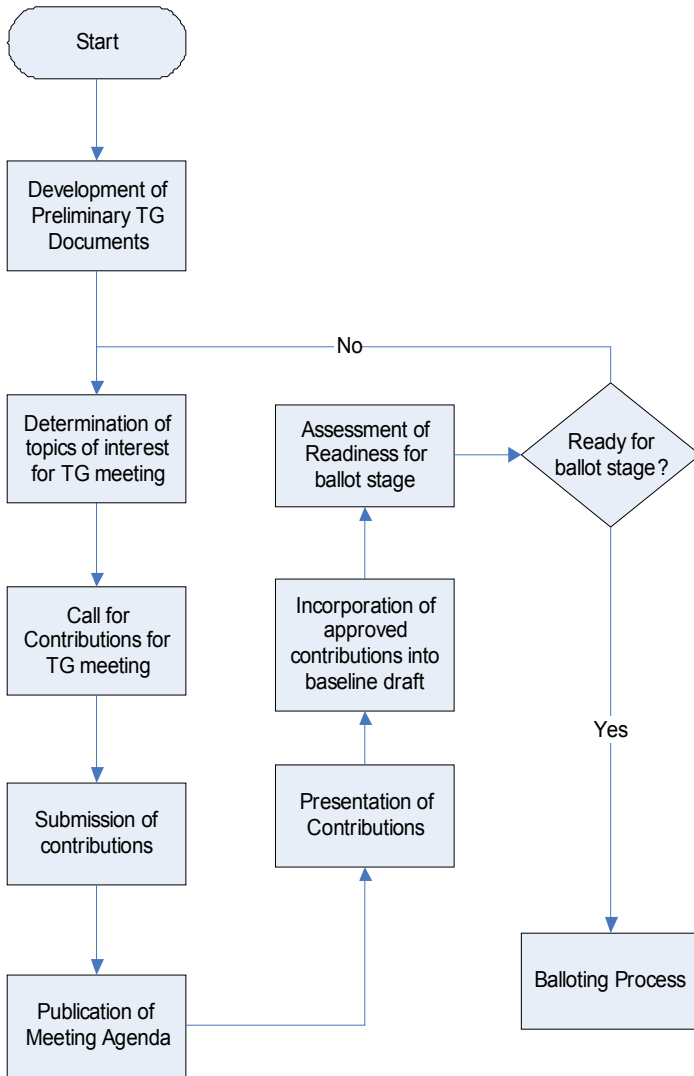


Figure 1 Process Flow Diagram

## **Suggested Technical Topic Areas and Their discussion Order**

This section will contain a list of the topic areas that the TG agrees will need to be addressed in the development of the standard and a rough order in which the TG agrees that the topics will be addressed. This section will be completed in a subsequent revision of this document.

The remaining text within this section provides some examples of topic areas and some approaches to specifying an order among the task areas. This text will be replaced in subsequent revisions by the chosen task list and selected order.

A key aspect of the process proposed in this contribution is the list of topic areas and the order in which they are to be addressed. It is critical for the TG to agree on list of topic areas and the order in which the TG will address them. Although many of the topic areas have dependencies on other topic areas, an order will have to be selected, because the TG will not be able to go through all of the contributions in all of the topics in one meeting, so some order will have to be selected.

Some examples of topic areas are:

- Network topology choice (PMP, tree structure)
- Frame structure
- Backhaul waveform design (preamble design, sub-channelization schemes, channel coding)
- Network entry and initialization
- Ranging support for initial, periodic and handover
- Contention resolution
- Channel quality measurements (RSSI, CINR)
- Bandwidth request
- Synchronization & Power control
- QoS Architecture
- HARQ/ARQ
- AAS & MIMO
- Link Adaptation and DIUC, UIUC update exchanges
- Fast-feedback, CQICH support
- MAC Support of PHY

There are two ways in which an order can be established. One approach is to divide the topics into groups of inter-related topics and to arrange the groups in a bottom-up order. Some groups can be addressed in parallel with others (e.g., security and phy issues have no dependencies and can be addressed in parallel). The TG works on one group at a time. The topic areas within a group are addressed together.

Another approach is to have the TG agree on the topic areas and a rough order among them (without explicitly grouping tightly related topics into groups). Using this approach, the grouping of topics is performed on the fly, at the discretion of the chair and vice chair, as they determine the topics to be covered in each TG meeting.

The authors of this contribution believe that the first approach (to explicitly agree on groups of topics) is better because it provides a better framework upon which the chair and vice chair can draw in determining the contents of calls for contributions and the order in which contributions should be presented in TG meetings.



## **TG Meeting Call for Contribution Guidelines**

This section captures additional details of the process for determining the contents of the call for contributions for a meeting. This section is left for further study.

## **TG Meeting Agenda Guidelines**

This section captures additional details of the process for creating an agenda for a meeting. This section is left for further study.

## **TG Meeting Guidelines**

This section captures additional details of the process of presenting contributions, encouraging members to harmonize their contributions, and determining which contributions are included in the draft. This section is left for further study.

## **TG Schedule**

This section captures the target schedule for developing the 802.16j standard. This section is left for further study.