<table>
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<tr>
<th>Project</th>
<th>IEEE 802.16 Broadband Wireless Access Working Group <a href="http://ieee802.org/16">http://ieee802.org/16</a></th>
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<tbody>
<tr>
<td>Title</td>
<td>Report of the meeting of the ITU ad hoc group during Session #44</td>
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<tr>
<td>Date Submitted</td>
<td>2006-07-20</td>
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<td>Source(s)</td>
<td>José M. Costa (ITU-R Liaison Official)</td>
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<td>CANADA K2H 8E9</td>
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<td>Re:</td>
<td>Preparation of liaison contributions to ITU-R.</td>
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<tr>
<td>Abstract</td>
<td>The activities of the ad hoc group cover four areas:</td>
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<td>1) ITU-R WP 8A on IEEE 802.16 in Mobile Service frequency bands.</td>
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<td>2) ITU-R WP 9B on IEEE 802.16 in Fixed Service frequency bands.</td>
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<td>3) ITU-R JTG 6-8-9 on sharing with satellites in the band 2500-2690 MHz.</td>
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<td>4) ITU-R WP 8F on IMT (including IMT-2000 and IMT-Advanced).</td>
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<tr>
<td>Purpose</td>
<td>Approve the proposed actions to contribute to ITU-R</td>
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Report of the meeting of the ITU liaison group during Session #44

José Costa (ITU-R Liaison Official)

1. Introduction

The ITU ad hoc group met from 13:00 to 14:30 hours on Tuesday, 18 July 2006, in San Diego, CA, USA, chaired by José Costa. About 25 people participated. The following agenda was adopted:

1. Introductions and approval of agenda
2. Adoption of report of the previous meeting (IEEE L802.16-06/005)
3. Presentation of contributions to be considered:
   • IEEE L802.16-06/010
   • IEEE L802.16-06/011
     Approval of New Recommendations from ITU-R SG9 (2006-05-10)
   • IEEE L802.16-06/012 (Note: Consider Attachments B and C only)
     Liaison Statement from ETSI BRAN to ITU-R WP 8A re M.BWA standards (Bernd Friedrichs; 2006-07-10)
4. Preparation of liaison contribution to ITU-R WP 8A in response to IEEE L802.16-06/010
5. Discussion on the standardization process for IMT-Advanced
6. Discussion of upcoming relevant ITU-R meetings
7. Other business

2. Results

2.1 Adoption of report of the previous meeting

The report of the previous meeting was adopted: Document IEEE L802.16-06/005.

2.2 Preparation of liaison contribution to ITU-R WP 8A

The main item of business for this meeting was the development of a response to a liaison statement from ITU-R WP 8A (on BWA):

IEEE L802.16-06/010: The liaison statement from WP 8A was reviewed by the ITU ad hoc group together with the liaison contribution from ETSI BRAN (Doc. IEEE L802.16-06/012).

IEEE L802.16-06/012: The ITU ad hoc group reviewed and agreed with the ETSI proposal with respect to Attachments B and C only; Attachment A on HiperLAN was considered outside the scope of IEEE 802.16.

It was suggested that the IEEE response could simply endorse the ETSI text, but showing the change marks to facilitate the work in WP 8A. The proposed contribution to ITU-R WP 8A is in Doc. IEEE L802.16-06/015.
Note for information (not part of the ITU Ad Hoc meeting): The ITU-R Liaison Official presented to the IEEE 802.18 WG, at their meeting on Thursday morning, the results of the ITU Ad Hoc meeting pertaining to the proposed draft liaison to ITU-R WP 8A. Some editorial improvements were made to the draft and IEEE 802.18 WG also added information about 802.11. IEEE 802.18 WG approved Document 18-06/0050R0 (L802.16-06/015d0) for submission to the IEEE 802 EC.

Motion: "To approve IEEE L802.16-06/015d0 and authorize the WG Chair to submit it to the IEEE 802 Executive Committee for approval, with the intent to submit to ITU-R as an IEEE contribution."

2.3 Discussion on the standardization process for IMT-Advanced

Based on the discussion that took place at the opening plenary of IEEE 802.16 about future activities and potential contributions to IMT-Advanced, there was some discussion within the ITU Ad Hoc group about the standardization process in ITU-R WP 8F for IMT-Advanced, with a view to future potential contributions by IEEE to that process. The ITU-R liaison official presented the following overview charts for information:

![IMT-Advanced process](image)

2.4 Discussion of relevant ITU-R meetings

Document IEEE L802.16-06/011 was noted for information. It announces the approval of Recommendation ITU-R F.1763, "Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz", which includes the harmonized IEEE WirelessMAN standard (IEEE 802.16) and ETSI HiperMAN standards (ETSI BRAN).

The meeting concluded with a brief overview of future relevant ITU-R meetings, including ITU-R JTG 6-8-9 (spectrum sharing in 2500-2690 MHz by space and terrestrial services), 24-28 July 2006, Geneva, Switzerland; WP 8F (IMT-2000/IMT-Advanced), 23-30 August 2006, Denver, CO, USA; and WP 8A (Land Mobile except IMT-2000), 6-14 September 2006, Geneva, Switzerland. Remi Chayer gave a brief overview of the results of the recent meeting of WP 9B (fixed service), 27 June-7 July 2006, Kobe, Japan.

2.5 Other business

There was no other business.
IMT-Advanced Standardization Process

José M. Costa
IEEE 802.16 ITU-R Liaison Official

IEEE 802.16 Meeting
San Diego, CA, USA
17-20 July 2006
Outline

> Broadband Wireless Access (BWA) activities in ITU-R
> IEEE 802.16 in ITU-R
> Systems beyond IMT-2000 (IMT-Advanced)
> Preliminary timeline for IMT-Advanced Process
> Summary
Broadband Wireless Access (BWA) Systems and Standards in ITU-R

- Wireless Metropolitan Area Networks (WMANs)
- Radio Local Area Networks (RLANs)
- IMT-2000 and IMT-Advanced
  - Fixed (WP 9B)
  - Mobile (WP 8A)
  - IMT (WP 8F)
IEEE 802.16 in ITU-R

> Recommendation ITU-R F.1763 “Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz”
  
  • Includes the harmonized IEEE WirelessMAN standard (IEEE 802.16) and ETSI HiperMAN standards (ETSI BRAN).

> Preliminary draft new Recommendation “Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service operating below 6 GHz” (Annex 17 to Doc. 8A/376)


> Potential future contributions to IMT-Advanced standards.
New elements to offer new capabilities of systems beyond IMT-2000

Other Radio Systems

IMT-2000 and Future Development


Spectrum Implementation

Evolution / Integration with other Radio Systems

Systems Deployment

Standards Development

Requirements Definition

Vision Definition

The sloped dotted lines indicate that the exact starting point of the particular subject can not yet be fixed.

▲ : Expected spectrum identification at WRC07

* : possible wide deployment around the year 2015 in some countries
Future Spectrum Requirements

> WP 8F has completed a Draft ITU-R Report “Spectrum requirements for the future development of IMT-2000 and IMT-Advanced”.

  - Provides results of technical studies on spectrum requirements, in accordance with Resolution 228 (Rev. WRC-03).
  - Uses market data from the year 2010 onwards provided by external organizations outside ITU, which are addressed in Report ITU-R M.2072, uses technical aspects in Report ITU-R M.2074, and uses the methodology in Recommendation ITU-R M.1768.

  - The predicted total spectrum bandwidth requirement for the year 2020 is calculated to be 1 280 MHz (including spectrum already in use, or planned to be used, which may amount up to 749 MHz).

> Work is in progress on candidate bands to be considered at WRC-07.

> Next meeting of WP 8F: 23-30 August 2006, Denver, USA.
Summary of activities in ITU-R WP 8F and results to-date

Future services/
Market analyses

November 2005

Future technology
assumptions

November 2005

Spectrum calculations

November 2005

Spectrum estimation methodology

November 2005

Spectrum requirements

May 2006

Proposal for WRC-07

August 2006 (draft CPM text)

2007-2010: Development of standards for IMT-Advanced
Preliminary time schedule: IMT-Advanced process

WP 8F mtgs.  RA-07  WRC-07

2006  2007  2008  2009  2010  2011
#18  #19  #20  #21  #22  #23  #24  #25  #26  #27  #28  #29  #30  #31  #32  #33  #34

Principles" Resolution

Development of a Circular Letter & Evaluation Criteria

Issue of invitation to IMT-Advanced

Proposals First Evaluation "Consensus Building" (inside & outside of ITU)

Continued evaluation of potential additional candidate technologies for IMT-Advanced

IMT.RADIO

First Release

IMT.GCS

Updates of IMT.GCS

San Diego, 17-20 July 2006