Final Report on Agenda Item 1.21 from CEPT Conference Preparatory Group (CPG) for WRC-03, Oslo (Feb. 19-22)

Agenda item 1.21: to consider progress of the ITU-R studies concerning the technical and regulatory requirements of terrestrial wireless interactive multimedia applications, in accordance with Resolution 737 (WRC-2000), with a view to facilitating global harmonization;

Issue

Resolution 737 (WRC-2000) invites ITU-R

- to pursue its studies to facilitate the development of common, worldwide allocations or identification of spectrum suitable for new terrestrial wireless interactive multimedia technologies and applications;
- to review regulatory methods and appropriate means of worldwide spectrum identification in order to facilitate the harmonisation of emerging terrestrial wireless interactive multimedia systems for the instant and flexible implementation of universal personal services;
- to review, if necessary, service definitions in the light of convergence of applications;
- to report to a future competent conference,

Preliminary CEPT position

The CEPT position is to be determined after the early identification of issues of importance to CEPT (in the context of terrestrial wireless interactive multimedia applications) which might need to be addressed in studies within ITU in response to Resolution 737 (WRC-2000). CEPT will contribute to such studies with a view to ensuring that sufficient progress has been made for WRC-03 to take decisions about any necessary action that might need to be taken within the context of an agenda item for WRC-06 (currently WRC-06 Agenda Item 2.15).

CEPT can accept the working-description of terrestrial wireless interactive multimedia (TWIM) applications agreed within JTG 1-6-8-9 for the CPM text. In addition CEPT considers the following as useful additional explanation to be used within CEPT on the background of TWIM-applications.

Terrestrial wireless interactive[1] multimedia[2] applications have their origin in telecommunication and broadcasting and provide wireless interactive multimedia services (including the Internet) with different degrees of interactivity and mobility.

1 See Recommnedation ITU-R M.1224
"A service which provides the means for the bidirectional exchange of information between users or between users and hosts.
NOTE 1 – Interactive services are subdivided into three classes of services: conversational services, messaging services and retrieval services."

2 See Recommnedation ITU-R M.1224
"A service in which the interchanged information consists of more than one type (e.g. video, data, voice, graphics). Multimedia services have multivalued attributes which distinguish them from traditional telecommunication services such as voice or data. A multimedia service may involve multiple parties, multiple connections, the addition/deletion of resources and users within a single communication session."

Background

The convergence of technologies, networks, applications, services and regulations is an emerging trend that may affect the entire communication industry resulting in an increasingly convergent marketplace allowing for best communications anywhere and anytime. To respond to this convergence, consideration maybe required to review the traditional barriers and borderlines between the existing Radio Services.

The concept as introduced in Resolution 737 as it pertains to terrestrial wireless interactive multimedia applications are not defined by ITU-R, but may include end-user radio access connection(s) through core networks for applications and services to provide content.. Although the concept of terrestrial wireless interactive multimedia applications in itself is not a service, it is envisioned that it could be provided within and across the radio services FS, MS, and BS, as defined by the Radio Regulations.

To allow for these convergent and ubiquitous new applications and services, it is appropriate to consider a flexible regulatory framework to allow for expeditious implementation on a worldwide or regional basis.

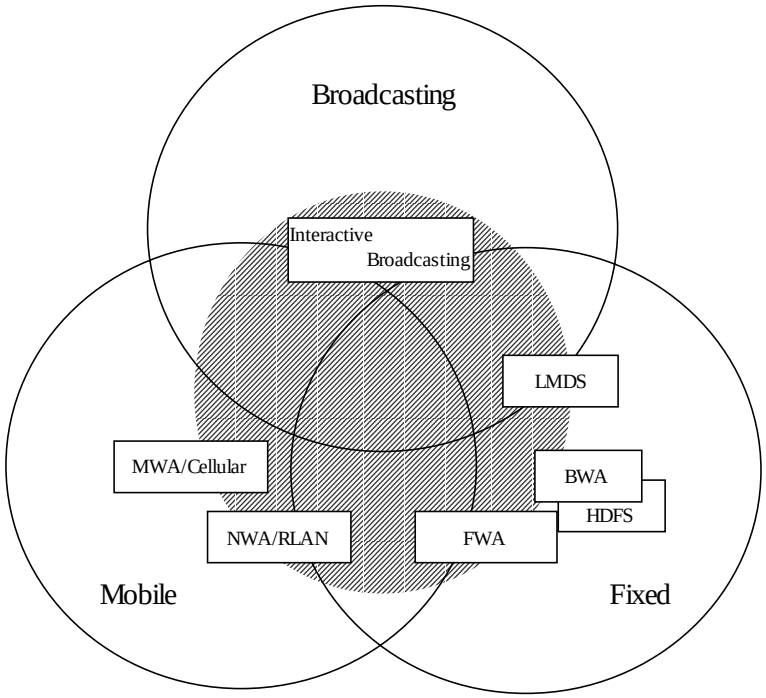
Terrestrial wireless interactive multimedia is a concept that is emerging in the marketplace and should not be confused with any particular existing or planned system; it is, rather, more of a vision of future wireless applications.

Ongoing activities within ITU-R

Joint Task Group 1-6-8-9

The CPM and CVC meeting in June 2000 established the Joint Task Group 1-6-8-9 to address the studies relating to terrestrial wireless interactive multimedia systems. The JTG noted at its first meeting that there is a trend toward technical convergence of a range of end-user services that is revolutionising communications and broadcasting and is offering a whole range of new market opportunities. The JTG considered the scope of terrestrial wireless interactive multimedia to be within the Fixed, Mobile and

Broadcasting Services. This process of technical convergence may be creating an overlap between traditionally distinct Services as defined in the Radio Regulations. This overlap is illustrated by the conceptual view in the figure below which JTG provided to facilitate discussions in different fora. The shaded area represents an area of indeterminate size, shape and content in which terrestrial wireless interactive multimedia systems may operate. Wired systems may carry similar end user services (note: a review of this diagram is required within CEPT).



LMDS: Local multipoint distribution system
FWA: Fixed wireless access
BWA: Broadband fixed wireless access
HDFS: High density applications in the fixed service
RLAN: Radio local area network
NWA: Nomadic wireless access
MWA: Mobile wireless access

The purpose of the JTG's work is to understand the evolution of those applications embraced by the concept of terrestrial wireless interactive multimedia systems so as to determine the degree of convergence and to identify if there are any specific regulatory requirements. In order to get broad bases for the studies, other study groups and working parties have been requested (via liaison statements) to provide information on their views on the subject.

The replies have been received from (« the contributing working parties ») WP 8F, WP6 E and 6M, WP 9B, WP 1 B, JRG 8A-9B, WP 8A.

The second meeting of Joint Task Group 1-6-8-9 dealing with WRC-03 agenda item 1.21 was held during 1-7 November 2001. Basic discussion was focused on developing draft CPM text for Chapter 7.1.
In sub-Section 3.1 of the preliminary draft CPM text it is stated that

"… the following is a preliminary working-description for the scope of terrestrial wireless interactive multimedia (TWIM) system :

> Systems that operate in one or more of the mobile, fixed and broadcasting services and are capable of supporting bi-directional exchange of information of more than one type (e.g. video, image, data, voice, sound, graphics) between users or between users and hosts.
>
> NOTE – The bi-directional exchange of information may be provided with different degrees of interactivity and mobility."

The draft CPM text also contains terminology used since there are many terms used in the CPM text, which need common understanding between the JTG and other contributing Working Parties. The JTG also identified several terms without a clear definition, for which further information has been requested from the relevant WPs through a liaison statement.

For the text for Section 4 (Methods to satisfy the agenda item), it was agreed to identify several items concerning TWIM concept for further study. This section will be reconsidered taking into account the new inputs to the next meeting.

Section 5 (Regulatory and procedural considerations) is based on the answers from contributing WPs. According to views stated in many reply liaison statements « there is no evidence at this time that there are any regulatory impediments to the development of TWIM systems ». The group also recognized that recent systems are starting to appear to be capable of operating within more than one of the three terrestrial Services.

It was also stated that « Harmonization of spectrum is an important factor in the success of TWIM systems and there are potential equipment cost advantages through economics of scale. Studies are required to assess the benefits of global and regional harmonization of spectrum for these systems and the need for any recognition within the Radio Regulations. »

List of relevant documents

JTG 1-6-8-9

1-6-8-9/12	Report of the first Meeting of JTG 1-6-8-9
1-6-8-9/TEMP/003	Liaison Statement To Study Group 1 And Working Parties 6M, 6E, 8A, 8F, 9B And JRG 8A-9B
1-6-8-9/39-E	Report of the second Meeting of JTG 1-6-8-9

WP 8A

JTG 1-6-8-9/22-E	Working Party 8A, Liaison Statement to ITU-R JTG 1-6-8-9
JTG 1-6-8-9/33-E	Liaison statement to WP 6M and JTG 1-6-8-9 Multimedia-based applications for traveller and road traffic information for Transport Information and Control Systems (TICS)

JRG 8A-9B

JTG 1-6-8-9/34-E	Liaison statement to ITU-R JTG 1-6-8-9 Terrestrial Wireless Interactive Multimedia Systems

WP 8F

JTG 1-6-8-9/20-E 8A/9B	Liaison statement to ITU-R JTG 1-6-8-9, WP 8A and to JRG

WP 6 M

JTG 1-6-8-9/18-E	Liaison Statement to JTG 1-6-8-9 Terrestrial Wireless Interactive Multimedia Systems
JTG 1-6-8-9/21-E	Liaison statement to WPs 6E and 6S, SG 8 and its WPS 8A, 8D and 8F, SG 9, JTG 1-6-8-9 and ITU-T SGS 9, 11, 13 and 16 Working document for diagrammatic inter-relations of Recommendations for interactive broadcasting services and their summaries

WP 6 E

JTG 1-6-8-9/17-E	Liaison Statement to WPS 7B, 7E, 8A, 8D, 8F and JTG 1-6-8-9 in respect of sharing of spectrum for WRC-03 Agenda Items seeking spectrum allocations within VHF/UHF Terrestrial Television Bands Current and future spectrum requirements for terrestrial television broadcasting
JTG 1-6-8-9/18-E	Liason Statement to JTG 1-6-8-9 Terrestrial Wireless Interactive Multimedia Systems

WP9B

JTG 1-6-8-9/19-E	Liaison statement to joint task group 1-6-8-9 and working party 1B Terrestrial Wireless Interactive Multimedia Systems Operating Under the Fixed Service

Actions to be taken

- To investigate whether the existing regulatory framework has sufficient flexibility to minimise any regulatory constraints resulting from the existing definitions of services, coordination procedure, etc. … in the Radio Regulations, in the context of convergence of mobile, fixed and broadcasting applications;
- To identify and develop, within the scope of the radio regulations, what regulatory measures, if any, that could facilitate the development of terrestrial wireless interactive multimedia applications

- Identify issues of relevance (especially for CEPT) for the ITU studies;
- Review ITU and CEPT work relating to the characterisation of multi-media systems with a view to finalize within CEPT a clear understanding of the concept of terrestrial interactive multi-media applications;
- Based on the results of these investigations, develop any necessary contributions to the relevant ITU studies.

Align JTG 1-6-8-9 text with the CEPT position that TWIM application are a concept rather than a system .