



Recommendation ITU-R BT.2037
(07/2013)

General requirements for broadcast-oriented applications of integrated broadcast-broadband systems and their envisaged utilization

BT Series
Broadcasting service
(television)

Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

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(Also available online at <http://www.itu.int/publ/R-REC/en>)

| Series | Title |
|------------|--|
| BO | Satellite delivery |
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| BS | Broadcasting service (sound) |
| BT | Broadcasting service (television) |
| F | Fixed service |
| M | Mobile, radiodetermination, amateur and related satellite services |
| P | Radiowave propagation |
| RA | Radio astronomy |
| RS | Remote sensing systems |
| S | Fixed-satellite service |
| SA | Space applications and meteorology |
| SF | Frequency sharing and coordination between fixed-satellite and fixed service systems |
| SM | Spectrum management |
| SNG | Satellite news gathering |
| TF | Time signals and frequency standards emissions |
| V | Vocabulary and related subjects |

Note: This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.

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RECOMMENDATION ITU-R BT.2037

General requirements for broadcast-oriented applications of integrated broadcast-broadband systems¹ and their envisaged utilization²

(2013)

Scope

This Recommendation defines general requirements for broadcast-oriented applications of integrated broadcast-broadband (IBB) digital television systems. These systems are based on the combination of technical specifications and related operational processes that together define how services can be provided to the end-user based on combinations of traditional broadcast and broadband telecommunication mechanisms.

The ITU Radiocommunication Assembly,

considering

- a) that broadcast-oriented IBB applications drive user engagement;
- b) that allowing broadcasters to offer applications and new content which are deeply tied to their programs maximize the end-user's satisfaction;
- c) that devices with Internet access are becoming widely available and offer multimedia applications,

recognizing

- a) that common platforms are desirable for production and international exchange of IBB content and applications;
- b) that unified platforms simplify and reduce the development effort of IBB content and applications;
- c) that globally unified delivery mechanisms leverage the benefits of broadcast and Internet technologies;
- d) that using different technologies for the same kind of service can become a major barrier to the success of integrated broadcast-broadband services;
- e) that IBB systems can work with terrestrial, cable, satellite digital broadcasting systems, as well as with broadcasting via telecommunication networks such as IPTV,

noting

that there are ongoing initiatives and substantial market implementations with digital terrestrial television broadcasting (DTTB) systems, which target to offer IBB applications,

¹ Integrated broadcast-broadband (IBB) system is a system in which broadcasting operates in parallel with broadband telecommunication systems and provides an integrated experience of broadcasting and interactivity by combining media content, data and applications from sources authorized by the broadcaster.

² This Recommendation is to be complemented by another Recommendation on technical requirements for IBB Systems.

recommends

that the general requirements for broadcast-oriented applications of IBB systems stated in Annex 1 should be taken into account when specifying a system model, architecture and behaviour of broadcast-oriented IBB systems.

Annex 1

1 Interoperability with digital broadcasting systems

IBB systems work with digital broadcasting systems. Interoperability with the existing broadcasting systems is required to minimize the impact of the introduction of IBB services on the existing broadcasting systems and to facilitate the deployment of IBB services. From this point of view, the following should be taken into account in considering IBB systems.

IBB systems should:

- i) be interoperable with existing broadcasting systems as much as possible;
- ii) not preclude the possibility of traditional broadcast operation;
- iii) provide mechanisms to offer regionally exclusive services and content if needed;
- iv) be capable to establish a mode for broadcast reception by mobile and portable devices if applicable;
- v) allow broadcasters to establish a direct relationship with each member of audience for the entire service offering.

2 Functionalities and services provided by integrated broadcast-broadband systems

IBB systems open up a new era for media delivery with many ways for broadcasters to provide a wide range of new services. The major point of difference between IBB systems and the web-based services is the capability to combine multi-functional IBB applications with broadcast programmes or services. There is also a risk that broadcasters will lose their direct relationship with the audience and become dependent on intermediaries that control essential parts of IBB platforms. And there is the risk that audience will find it increasingly difficult to access broadcasters' original content.

To maximize the benefits of IBB systems, and to minimize the risks, the following should be taken into account when considering IBB systems.

IBB systems should be:

- i) capable of bringing new services to users leveraging the functionality from broadcast and Internet at the same time;
- ii) able to support linear and non-linear services and content;
- iii) capable of presenting emergency broadcast content properly;
- iv) able to support the integration of second screen communication and its synchronization to the services presented on the main sound and image display;
- v) capable such that the content can be accessed in a barrier free manner for people with disabilities;
- vi) capable of providing mechanisms to offer targeted services and content.

3 Preservation of interest of stakeholders

IBB systems are intended to offer a wide range of services. To offer and to enjoy the services, there are a variety of interests of stakeholders. Broadcasters have a vital interest in ensuring that the content which they provide is displayed unaltered on screen and without unauthorized overlays. That is, the intention of broadcast content should not be disturbed by any activities of IBB applications. Closely connected with the goal of preserving content integrity and the viewing experience is the need to protect broadcasters and other rights holders from unlawful activities such as content piracy.

It is essential for the audience to know exactly what kind of data is collected, by whom and for what purposes, while broadcasters also have a legitimate interest in not being excluded from access to usage data regarding their own services that may be collected by third parties. As common understanding, the following should be taken into account for IBB systems.

IBB systems should:

- i) ensure integrity of broadcasting content and services, free of unauthorized overlays;
- ii) clearly identify the content source, as well as, free and paid services;
- iii) ensure that the content and service they provide can be easily accessed by users, in an unaltered form;
- iv) protect copyright;
- v) ensure they are aware of what kind of data is collected, by whom and for what purposes, including but not limited to viewing, usage or search data and profile information and respecting the user's privacy;
- vi) avoid unintended behaviour from malicious activities such as viruses, malwares, etc.

4 Easy implementation

IBB systems consist of many hardware and software components. Ease and expandability of system implementation of IBB systems contribute to system deployment. To mitigate the difficulty of implementation of the system, the following should be taken into account for IBB systems.

IBB systems should:

- i) maximize system compatibility across the world;
 - ii) use existing, royalty-free and world accepted standards and solutions as much as possible;
 - iii) allow any existing or future communication technology to be used with the system.
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