



December 06, 2022

To,
The Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan
Jawaharlal Nehru Marg (Old Minto Road),
New Delhi- 110 002

Sub: Additional Comments on behalf of Hathway Digital Limited ('HATHWAY') on the Consultation Paper on "Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fourth Amendment) Regulations, 2022

Dear Sir/Madam,

We, HATHWAY, would like to thank the Telecom Regulatory Authority of India (*hereinafter referred as 'Authority'*) for providing us with the opportunity to share our comments on the CP.

The consultation paper deals with important aspects related to IPTV. It is a promising technology for delivery of TV/Video content to customers with many advanced features, such as video on demand and time shifted content, which are not available in the traditional distribution platforms. IPTV has been there from many years and has undergone many technological changes, to allow the customers to access content in a customized manner, which requires it to utilize unicast capabilities.

However, Consultation Paper proposes to limit IPTV transmission to multicast only. It is pertinent to state that in the responses submitted to TRAI, **only one stakeholder seems to have supported the restriction of limiting the IPTV to only multicast (that too without any rationale or technical justification) whereas most of the stakeholders have strongly expressed their concerns on such restriction and have asked for allowing unicast for IPTV services.** These stakeholders have mentioned in their responses that the current networks and infrastructure does not support multicast, and it is practically impossible to build a scalable multicast based network for IPTV. In addition to this, many of the stakeholders have also mentioned that the **use of CDN for IPTV is essential for efficient delivery of IPTV content in unicast transmission and for the scalability of the IPTV networks.**



As mentioned in our response to Consultation Paper, due to advancements in IPTV technology, transmission of IPTV services cannot be limited to a particular mode i.e. multicast, as long as DRM is able to ensure all main objectives laid down by the Authority, i.e.:

- i. Preventing Piracy
- ii. Consumer Interest with respect to Quality of Experience (QoE)
- iii. Seamless Technology (Network) aspect to deliver IPTV Service

Several stakeholders have expressed similar views; they have submitted in their responses that restricting IPTV to only multicast will deprive the service providers from offering advanced features supported by IPTV services. We also agree with the views expressed by stakeholders that unicast also offers content protection, which is one of the primary objectives laid down by TRAI. Due to this, we believe that **prescription to use only multicast for IPTV is an artificial restriction, which will throttle the uptake of IPTV services and will be detrimental to both consumers and service providers.**

In view of the above, we are hereby providing our additional comments on the requirement of including both unicast and multicast for the IPTV transmission for the kind consideration of Authority:

1. ITU Recommendations:

As per ITU-T recommendations¹ (ITU-T Y.1901: for Requirements for the support of IPTV services), IPTV is defined as below:

3.2.15 Internet Protocol Television (IPTV): Multimedia services such as television/video/audio/text/graphics/data delivered over IP-based networks managed to support the required level of QoS/QoE, security, interactivity and reliability.

The above definition does not limit the IPTV transmission to any methodology and states that IPTV supports **interactivity, which requires network to communicate individually with customer connection using unicast.**

¹ <https://www.itu.int/rec/T-REC-Y.1901-200901-I>



Furthermore, the abovementioned Recommendations, also state that IPTV supports various features such as Time-Shifting (which allows customers to view content after its initial transmission), supplementary video content etc.

In order to support all such features, IPTV requires unicast transmission. Hence, in the abovementioned recommendations, **ITU recommends IPTV architecture to support both unicast and multicast:**

*RR 6.4-01: The IPTV architecture is recommended to support **the ability of both multicasting and unicasting transmission schemes.***

2. Definition of IPTV in other countries:

The Regulators of various countries have defined IPTV broadly without going into the transmission schemes or characteristics of underlying In this regard, definitions by Singapore, Canada and USA are as below:

a. IMDA²(Singapore):

IPTV or Internet Protocol Television refers to the delivery of video or TV signals using Internet Protocol (IP). Globally, many telecommunication operators (telcos) have deployed or are at various stages of deploying IPTV services.

IPTV uses the IP network and communication protocols to deliver television programmes to viewers via a broadband connection and a set-top box connected to their television. These programmes can be in the form of either full scheduled channels and/or video-on-demand content.

² <https://www.imda.gov.sg/Content-and-News/Media-Releases-and-Speeches/archived/mda/Media-Releases/2007/mda-launches-new-licence-framework-for-iptv>



b. Canada (CRTC)³:

With IPTV services, digital TV channels are delivered to your television through a high-speed Internet connection. To get TV services from IPTV to your home, the IPTV distributor needs to provide you with a set-top box and the requisite access.

c. USA (FCC)⁴:

IPTV is digital television delivered through a high speed Internet connection, instead of by the traditional cable method. IPTV service generally is offered bundled with the customer's Internet and telephone or VoIP services.

3. Definition of IPTV in India:

The definition of IPTV (reproduced below) in the Unified License also does not restrict the IPTV service to any transmission mechanism i.e. multicast or unicast and only imposes the requirement of **delivery of multimedia content over a managed and controlled IP network**.

IPTV (Internet Protocol Television) service (or technology) is a convergence service (or technology) of the telecommunications and broadcasting through QoS controlled Broadband Convergence IP Network including wire and wireless for the managed, controlled and secured delivery of a considerable number of multimedia contents such as Video, Audio, data and applications processed by platform to a customer via Television, PDA, Cellular, and Mobile TV terminal with STB module or similar device.

The definition of IPTV, given in TRAI Recommendations, states as below:

"internet protocol television service" or "IPTV service" means (i) delivery of multi-channel television programmes; (ii) in addressable mode; (iii) by using Internet Protocol over a closed network of one or more service providers

We have already enunciated in our response, about how unicast IPTV transmission is able to ensure delivery of multi-channel television programmes, addressable mode and usage of Internet Protocol over a closed network, which is in consonance with definition of IPTV laid down by TRAI.

³ <https://crtc.gc.ca/eng/television/services/options.htm>

⁴ As per report published by FCC in 2013 <https://www.fcc.gov/document/fy-2013-regulatory-fees-report-order>



Therefore, we hereby request the Authority to kindly not restrict the IPTV to only multicast mode of transmission and both unicast and multicast should be allowed for IPTV. The service providers should be free to use either unicast or multicast for IPTV as per their requirement and to use means such as CDN for scalability and efficient delivery of IPTV services.

Warm Regards
For **Hathway Digital Limited**


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