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SERIES J: CABLE NETWORKS AND TRANSMISSION
OF TELEVISION, SOUND PROGRAMME AND OTHER
MULTIMEDIA SIGNALS

Transport of Large Screen Digital Imagery

Requirements for a scalable video transmission system over cable networks

Recommendation ITU-T J.604

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Summary

Recommendation ITU-T J.604 describes requirements for a scalable video transmission system over cable networks, which is one of the transmission methods for providing additional high resolution video services.

High resolution video formats such as 4K are expected to be one of the ultra-realistic video formats that will be applied to future video services over cable network infrastructures. In the beginning of 4K video (ITU-R BT.1769/ITU-R BT.2020) services, both high definition television (HDTV) and 4K video services will be simultaneously provided.

Considering the cost of constructing the infrastructure, the current and new services will be provided over the same cable network infrastructure. Furthermore, in the case where the 4K video service will be additionally provided over the existing cable network infrastructure, the signal receiver (e.g., the set top box (STB) device) should be replaced with one that supports the 4K service. However, it is difficult to change all STB devices in the existing service at the same time, and therefore the 4K service will coexist with the current HDTV service.

Distribution systems using scalable video coding technology are one of the effective methods for providing simultaneous services. Within a general scalable video coding method, the smallest resolution video is coded as the low layer, and then the higher resolution video is coded as the higher layer by encoding the difference information from the lower resolution video.

From the viewpoint of compatibility to the current cable services which employs radio frequency (RF)-based broadcasting, one solution is that the existing HDTV service over RF is also used as the low layer, and then the difference information between 4K video and HDTV may be transmitted as the higher layer over the IP interface (data over cable service interface specification (DOCSIS) ITU-T J.222.0).

This Recommendation includes requirements regarding general issues, scalability of video service, and system performance.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T J.604	2014-01-13	9	11.1002/1000/12105-en

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

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