

A METHOD FOR TRANSMITTING STREAMING AUDIO/VIDEO

Abstract. By the end of the 20th century due to a new wave of technology - digital processing. Soon, virtually any information before the broadcast, be it speech or TV picture began to transform into a sequence of zeros and ones. Through digital processing all closely intertwined, technology developed in parallel voice and data, with the advent of packet data, and they do almost merged together. Appeared, the term "multimedia", denoting the union of a variety of information technology (voice, audio / video, data) in a single technological environment, processing and transmission.

Keywords: streaming communication, multimedia data compression, multimedia content, web server, topology, protocols, mesh, an additional parameter field gear, installation soedeinenii, session, synchronization, media, video, audio, upgraded algorithm, the traffic mediokonteyner recoding.

In addition to compression of multimedia data, required to ensure the possibility of continuous transmission to a remote user. There are several types of streaming multimedia content:

- Real-time (multicast), when one data stream is transmitted to multiple users simultaneously. According to this principle operates IPTV [3];

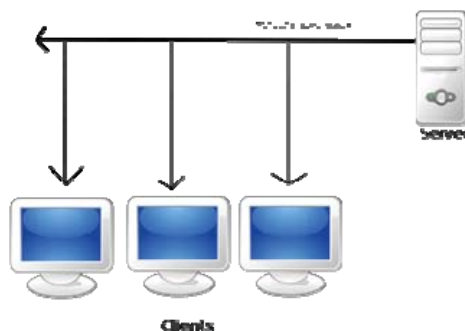


Figure 1.1. The principle of multicast packet

- in mode "on demand» (unicast), the server generates individual data stream for each client. In this mode, it operates the majority of Internet multimedia transmission services [3]

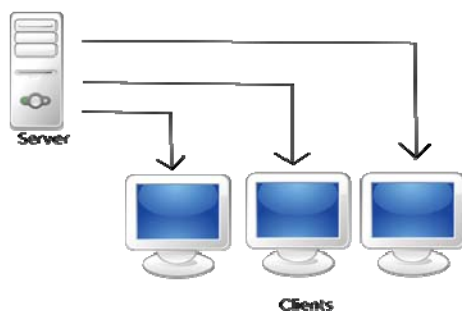


Figure 1.2. The principle of unicast packet

Both modes require high bandwidth and low latency time internet user channel. Depending on the equipment, and setting the network topology, the streams are transmitted using HTTP or RTP protocols [4].

Transfer Protocol RTP video stream [55] is based mainly on UDP [56] (the key TCP \ IP protocol stack element), although in the specification denotes the ability to work through TCP [57] (a key element of the protocol stack TCP \ IP). The use of UDP as the underlying protocol for the transmission of multimedia data, due to the need of possible packet loss, in favor of minimizing the delay of the transmitted information.

RTP protocol is unable to establish a connection, so its use is not possible without additional protocols, such as RTSP or SIP:

- RTSP protocol, application protocol being used for remote management of the server data stream. As a client, and the server can create a query using a specific format. The request is sent in text form, and may contain additional fields indicating transmission parameter. The interaction of the server and the client establish a connection occurs.

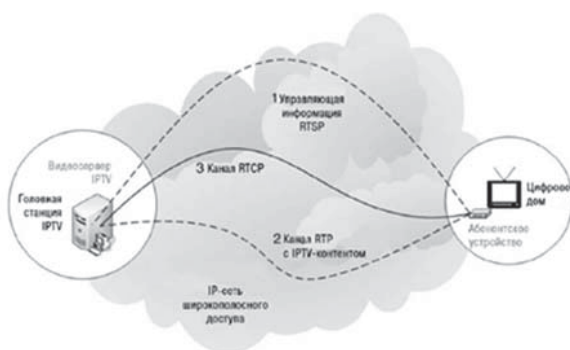


Figure 1.3. RTP with RTSP example on IPTV

- SIP protocol, as is an application layer protocol and the method used to describe the connection between two or more nodes to transmit media content. The protocol has a client-server architecture: the client requests certain information from the server; the server processes the client's request and generates a response to the possibility of a connection set [8].

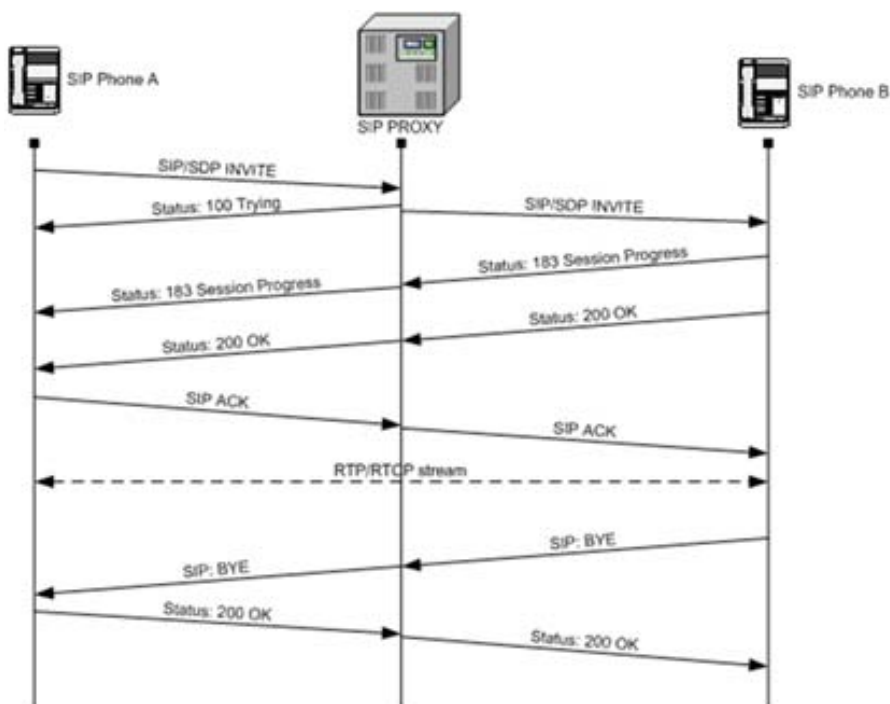


Figure 1.4. RTP using for example SIP VOIP

Establishing a connection to work with RDP, involves the creation of separate sessions for audio and video, even occupying the ports. Next (odd) port takes RTCP protocol is a subsidiary responsible for the synchronization of media data streams, and feedback to the server. The data stream generated RTCP, generally not exceeding 5% of the total RTP traffic [9].

RTP packet header contains a timestamp and order package, which allows with minimal loss of time to collect video in the correct sequence and skip the missing packages.

In addition there is the possibility of multimedia RTP transmission via HTTP, namely HLS. In such a case, establish a connection and transfer of multimedia information occur within a single protocol. The syntax of RTSP is similar to the command and contained in the HTTP header of the packet. Support for HLS is integrated into a majority of today's mobile devices and media players that makes extensive use of this method of streaming media, and the lack of complexity when using non-standard ports port removes the restriction on the use of streaming media in unprepared networks [6].

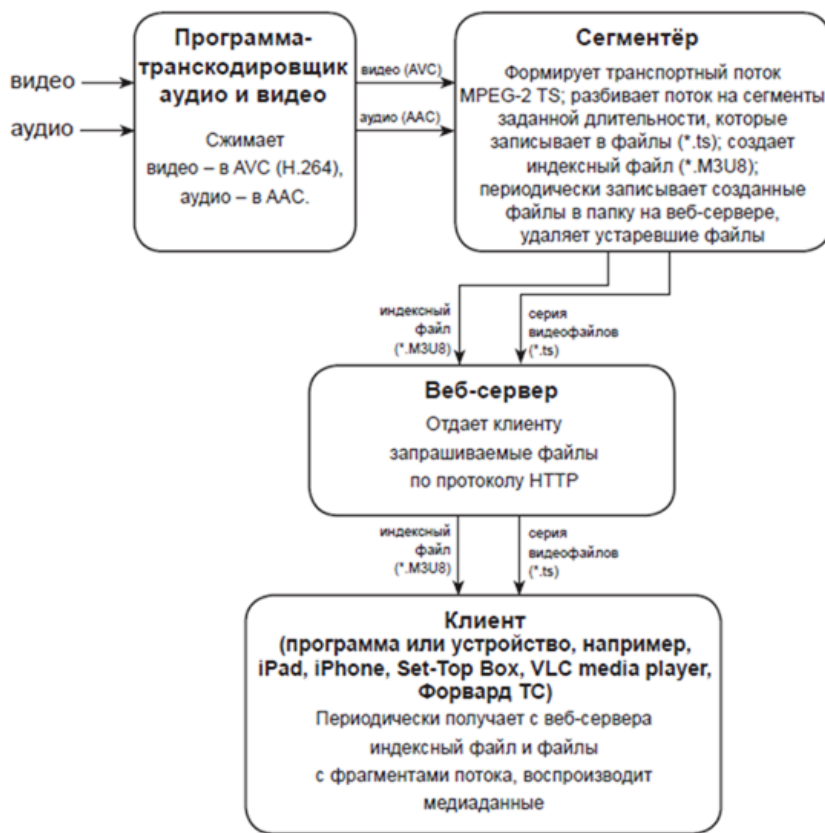


Figure 1.5. Total data transmission scheme XLS

The disadvantage of the current method can be called a perceptible delay, which is caused by the specifics of functioning of the Protocol. Such delays are unacceptable during a meeting with media streams between remote users. However, this limitation is not particularly important in the transmission of HD video and audio.

At the moment, the demand for multimedia content on the web open spaces is increasing, and consequently the media content transfer protocols will be improved and become increasingly advanced functions. New, upgraded compression algorithms in the future will reduce the amount of multimedia traffic, while the number of users only to multiply.

Media container formats and Video is stored on the recording medium as a file - media container - like any other digital material. Media container can hold a video, audio, and the rest flows together with metadata. At any time of the container can be removed, for example, image or audio track, transcode them

and move them to a different container, you have to convert the video file type. There are various formats of multimedia containers (types), and that they belong to a certain type of file extension shows.

No matter what the prevailing number of containers attached to a particular format in which something can be stored totally identical video standards. For example, the AVI file extension may comprise video in the MPEG-1 format, MPEG-2 or MPEG-4 in. On what affects container format in this case?

Of course, for the most part it determines the quality of video codec and parameters assigned at the time of conversion. Meanwhile, it is impossible to downplay the significance of the chosen container. Different types of video files have clear conditions and a limit on the number of audio tracks, subtitles channels, types of codecs used and compatibility with domestic players and players.

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Ж. А. Бошанқизи, А.А. Цісельський. Спосіб передачі поточкових аудіо / відео. - Стаття.

Анотація. До кінця ХХ століття практично будь-яка інформація, будь то мова або телевізійна картинка стала перетворюватися в послідовність нулів і одиниць. Завдяки цифровій обробці всі дані тісно пов'язані між собою. Виник термін "мультимедіа", що позначає об'єднання різних інформаційних технологій (голос, аудіо / відео, дані) в єдину технологічну середу обробки і передачі інформації.

Ключові слова: потокова передача інформації, мультимедійні стиснення даних, мультимедіа контент, інтернет сервер, топологія, сітка протоколів, додаткове поле передач параметрів, сесія, синхронізація, медіа, відеоряд, аудіосигнал, модернізований алгоритм, трафік, медіаконтейнер, перекодування.

Жаныс Арай Бошанқызы., А.А. Цысельский. Способ передачи потоковых аудио/видео. – Статья.

Аннотация. К концу ХХ века практически любая информация, будь то речь или телевизионная картинка стала превращаться в последовательность нулей и единиц. Благодаря цифровой обработке все данные тесно связаны между собой. Возник термин "мультимедиа", обозначающий объединение различных информационных технологий (голос, аудио / видео, данные) в единую технологическую среду обработки и передачи информации.

Ключевые слова: потоковая передача информации, мультимедийное сжатие данных, мультимедиа контент, интернет сервер, топология, сетка протоколов, дополнительное поле передач параметров, установка соединения, сессия, синхронизация, медиа, видеоряд, аудиосигнал, модернизированный алгоритм, трафик, медиаконтейнер, перекодировка.