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AFFIDAVIT OF CHRISTOPHER BUTLER

1. I am the Office Manager at the Internet Archive, located in San Francisco, California. I make this declaration of my own personal knowledge.

2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.

3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to surf more than 450 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a list of available dates. The visitor may select one of those dates, and then begin surfing on an archived version of the Web. The links on the archived files, when served by the Wayback Machine, point to other archived files (whether HTML pages or images). If a visitor clicks on a link on an archived page, the Wayback Machine will serve the archived file with the closest available date to the page upon which the link appeared and was clicked.

4. The archived data made viewable and browseable by the Wayback Machine is compiled using software programs known as crawlers, which surf the Web and automatically store copies of web files, preserving these files as they exist at the point of time of capture.

5. The Internet Archive assigns a URL on its site to the archived files in the format http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL]. Thus, the Internet Archive URL

http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file

(http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). A web browser may be set such that a printout from it will display the URL of a web page in the printout's footer. The date assigned by the Internet Archive applies to the HTML file but not to image files linked therein. Thus images that appear on a page may not have been archived on the same date as the HTML file. Likewise, if a website is designed with "frames," the date assigned by the Internet Archive applies to the frameset as a whole, and not the individual pages within each frame.

6. Attached hereto as Exhibit A are true and accurate copies of printouts of the Internet Archive's records of the HTML files or txt files for the URLs and the dates specified in the footer of the printout.

7. I declare under penalty of perjury that the foregoing is true and correct.

DATE: 11/7/19

Christopher Butler

CALIFORNIA JURAT

See Attached Document.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California County of San Francisco

Subscribed and sworn to (or affirmed) before me on this

7th day of November, 2019, by

Christopher Butler,

proved to me on the basis of satisfactory evidence to be the person who appeared before me.

u NU Signature:



Exhibit A

DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>. Network Working Group Request for Comments: 1889 Category: Standards Track Request for Comments: 1889 Category: Standards Track Request for Comments: 1889 Category: Standards Track Request for Comments Request for Comme

K. Freuerica Xerox Palo Alto Research Center V. Jacobson Lawrence Berkeley National Laboratory January 1996

RTP: A Transport Protocol for Real-Time Applications

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STO 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

Abstract

This memorandum describes RTP, the real-time transport protocol. RTP provides end-to-end network transport functions suitable for applications transmitting real-time data, such as audio, video or simulation data, over multicast or unicast network services. RTP does not address resource reservation and does not guarantee quality-ofservice for real-time services. The data transport is augmented by a control protocol (RTCP) to allow monitoring of the data delivery in a manner scalable to large multicast networks, and to provide minimal control and identification functionality. RTP and RTCP are designed to be independent of the underlying transport and network layers. The protocol supports the use of RTP-level translators and mixers.

Table of Contents

in incroduction internet in the second second	 د
 RTP Use Scenarios 	 5
2.1 Simple Multicast Audio Conference	 5
2.2 Audio and Video Conference	 6
2.3 Mixers and Translators	 6
 Definitions 	 7
 Byte Order, Alignment, and Time Format 	 9
 RTP Data Transfer Protocol 	 10
5.1 RTP Fixed Header Fields	 10
5.2 Multiplexing RTP Sessions	 13

Schulzrinne,	et al	Standards Track	[Pa	ge 1]
RFC 1889		RTP	January	1996
RFC 1889 5.3 5.3.1 6.1 6.2 6.2 6.3 6.3.1 6.3.2 6.3.3 6.3.4 6.4.1 6.4.2 6.4.3 6.4.4 6.4.1 6.4.2 6.4.3 6.4.4 6.4.5 6.4.6 6.4.7 7.1 7.2 7.3 7.3 7.3 9.1 9.2 10.11 11.2 12.2 A.1 A.2 A.3 A.3 A.3 A.3 A.3 A.3 A.3 A.3	Profile- RTP Head RTP Con RTCP Pad RTCP TAT Maintain Allocat: Sender: Strendi Analyzi SDES: SC CNAME: 0 NAME: 0 Extendi SDES: SC CNAME: 0 MAME: 0 PHONE: 1 LOC: Ge TOOL: A PHONE: 1 LOC: Ge TOOL: A PHONE: 1 LOC: Ge TOOL: A PHONE: 1 LOC: Ge TOOL: A NOTE: N BYE: GOO APP: App RTP Trai STP: App RTP Trai General RTCP Prc Cascadee SSKC Idd Probabi Confide Securit; Confide Sumary RTCP pad SES ty RTCP Fad SDES ty RTP Pro- Algorith	RTP -Specific Modifications to the RTP Her Extension	January Header	19966 14 14 15 15 19 21 21 22 23 28 29 29 29 29 29 29 29 29 29 29 29 29 29
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Schulzrinne,	et al	Standards Track	[Pa	ge 2]
RFC 1889		RTP	January	1996

A.8	Estimating the Interarrival Jitter
в.	Security Considerations
с.	Addresses of Authors
D.	Bibliography

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to make use of its multiplexing and checksum services; both protocols contribute parts of the transport protocol functionality. However, RTP may be used with other suitable underlying network or transport protocols (see Section 10). RTP supports data transfer to multiple destinations using multicast distribution if provided by the underlying network.

Note that RTP itself does not provide any mechanism to ensure timely delivery or provide other quality-of-service guarantees, but relies on lower-layer services to do so. It does not guarantee delivery or prevent out-of-order delivery, nor does it assume that the underlying network is reliable and delivers packets in sequence. The sequence numbers included in RTP allow the receiver to reconstruct the sender's packet sequence, but sequence numbers might also be used to determine the proper location of a packet, for example in video decoding, without necessarily decoding packets in sequence.

While RTP is primarily designed to satisfy the needs of multi-participant multimedia conferences, it is not limited to that particular application. Storage of continuous data, interactive distributed simulation, active badge, and control and measurement applications may also find RTP applicable.

This document defines RTP, consisting of two closely-linked parts:

the real-time transport protocol (RTP), to carry data that has real-time properties.

o the RTP control protocol (RTCP), to monitor the quality of service and to convey information about the participants in an on-going session. The latter aspect of RTCP may be sufficient for "loosely controlled" sessions, i.e., where there is no explicit membership control and set-up, but it is not necessarily intended to support all of an application's control communication requirements. This functionality may be fully or partially subsumed by a separate session control protocol,

Schulzrinne, et al	Standards Track	[Page 3]
RFC 1889	RTP	January 1996

which is beyond the scope of this document.

RTP represents a new style of protocol following the principles of application level framing and integrated layer processing proposed by Clark and Tennenhouse [1]. That is, RTP is intended to be malleable to provide the information required by a particular application and will often be integrated into the application processing rather than being implemented as a separate layer. RTP is a protocol framework that is deliberately not complete. This document specifies those functions expected to be common across all the applications for which additional functions might be accommodated by making the protocol more general or by adding an option mechanism that would require parsing, RTP is intended to be tailored through modifications and/or additions to the headers as needed. Examples are given in Sections 5.3 and 6.3.3. d by which 5.3 and 6.3.3.

Therefore, in addition to this document, a complete specification of RTP for a particular application will require one or more companion documents (see Section 12):

- o a profile specification document, which defines a set of o a profile specification document, which defines a set of payload type codes and their mapping to payload formats (e.g., media encodings). A profile may also define extensions or modifications to RTP that are specific to a particular class of applications. Typically an application will operate under only one profile. A profile for audio and video data may be found in the companion RFC TBD.
- o payload format specification documents, which define how particular payload, such as an audio or video encoding, is to be carried in RTP.

A discussion of real-time services and algorithms for their implementation as well as background discussion on some of the RTP design decisions can be found in [2].

Several RTP applications, both experimental and commercial, have already been implemented from draft specifications. These applications include audio and video tools along with diagnostic tools such as traffic monitors. Users of these tools number in the thousands. However, the current Internet cannot yet support the full potential demand for real-time services. High-bandwidth services using RTP, such as video, can potentially seriously degrade the quality of service of other network services. Thus, implementors should take appropriate precautions to limit accidental bandwidth usage. Application documentation should clearly outline the limitations and possible operational impact of high-bandwidth real-

Schulzrinne, et al	Standards Track	[Page 4]
RFC 1889	RTP	January 1996

time services on the Internet and other network services.

2. RTP Use Scenarios

The following sections describe some aspects of the use of RTP. The examples were chosen to illustrate the basic operation of applications using RTP, not to limit what RTP may be used for. In these examples, RTP is carried on top of IP and UDP, and follows the conventions established by the profile for audio and video specified in the companion Internet-Draft draft-ietf-avt-profile

2.1 Simple Multicast Audio Conference

Δ

A working group of the IETF meets to discuss the latest protocol draft, using the IP multicast services of the Internet for voice communications. Through some allocation mechanism the working group chair obtains a multicast group address and pair of ports. One port is used for audio data, and the other is used for control (RTCP) packets. This address and port information is distributed to the intended participants. If privacy is desired, the data and control packets may be encrypted as specified in Section 9.1, in which case an encryption key must also be generated and distributed. The exact details of these allocation and distribution mechanisms are beyond the scope of RTP. scope of RTP.

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