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Serenyi et al.

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(54) **METHODS AND APPARATUSES FOR TRANSFERRING STREAMING MULTIMEDIA DATA AND VARIOUS TYPES OF DATA ASSOCIATED THEREWITH IN A NETWORK ENVIRONMENT**

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WO 97/22201 A2 6/1997

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(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal disclaimer.

(Continued)

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Primary Examiner—Robert B Harrell

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(74) *Attorney, Agent, or Firm*—Blakely, Sokoloff, Taylor & Zafman LLP

(65) **Prior Publication Data**

(57) **ABSTRACT**

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The present invention provides several methods and apparatuses for transmitting multimedia data using streaming media protocols such as real-time transfer protocols (RTP) and real-time streaming protocols (RTSP) in a computer network environment. A request for RTP data is sent from the caching proxy server to the server. The request may be for one specific type of data or multiple unrelated types of data. The server responds to the request indicating its support for the requested data. The caching proxy server determines whether to proceed or terminate the data transmission process based on the response provided by the server. If it is determined to proceed with the data transmission process, the caching proxy informs the server to send the requested data. The server sends the requested data in a body of a RTP packet. The RTP packet uses a RTP Meta-Info payload format, which includes a body and a field header. The field header includes fields to identify the streaming media data, and the field body includes the requested streaming media data.

Related U.S. Application Data

(60) Division of application No. 09/757,235, filed on Jan. 8, 2001, now Pat. No. 7,007,062, which is a continuation-in-part of application No. 09/603,108, filed on Jun. 22, 2000, now Pat. No. 7,191,242.

(51) **Int. Cl.**
G06F 13/00 (2006.01)

(52) **U.S. Cl.** **709/203**

(58) **Field of Classification Search** **709/203**
See application file for complete search history.

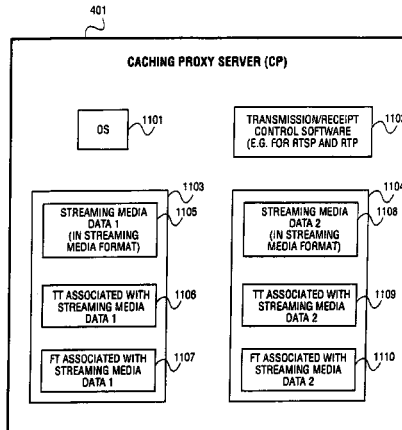
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33 Claims, 15 Drawing Sheets



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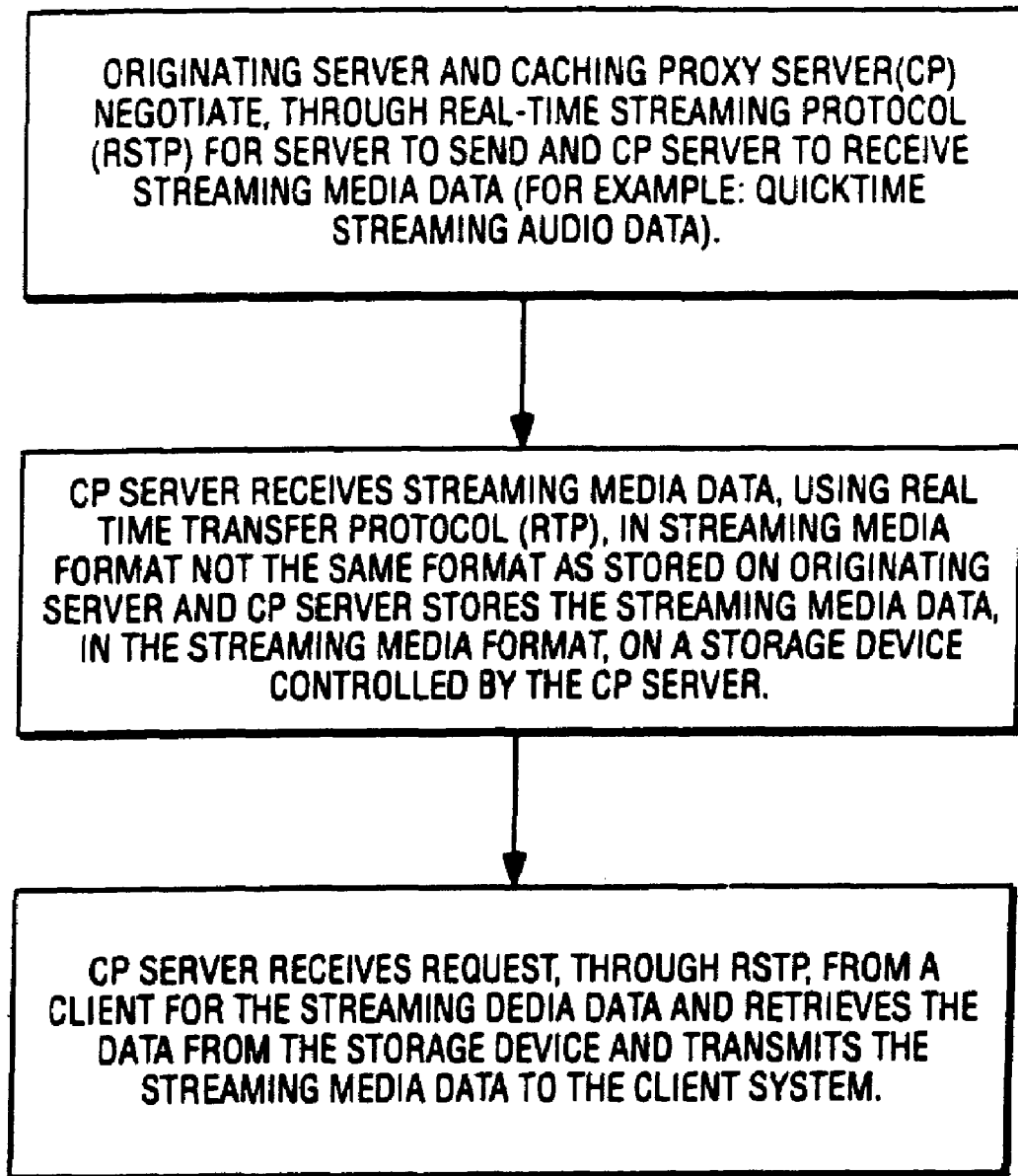


FIG. 1A
(Prior Art)

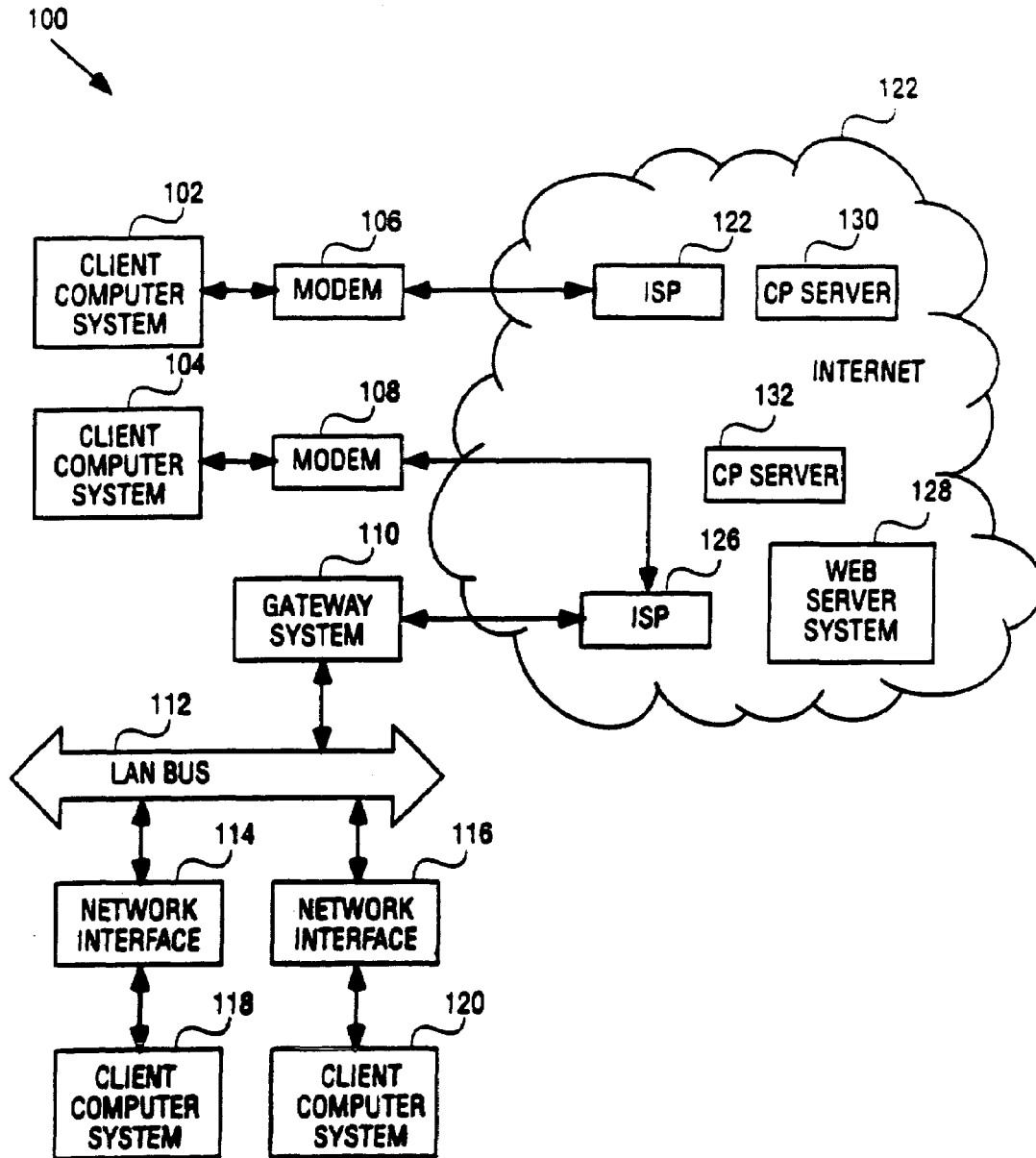


FIG. 1B

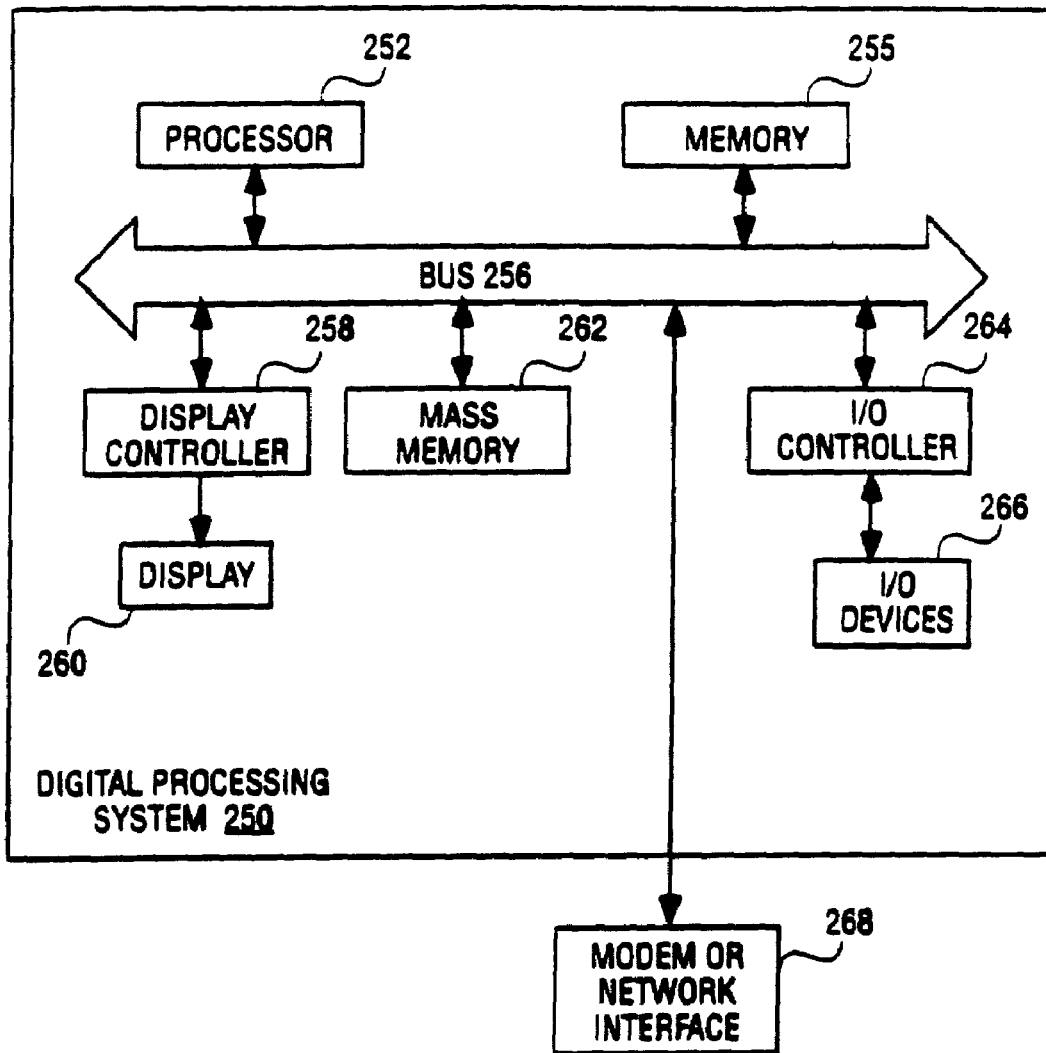


FIG. 2

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