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United States Patent [19]

Bach et al.

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[54] NETWORK PROCESSOR FOR TRANSFORMING A MESSAGE TRANSPORTED FROM AN I/O CHANNEL TO A NETWORK BY ADDING A MESSAGE IDENTIFIER AND THEN CONVERTING THE MESSAGE

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[73] Assignee: International Business Machines Corporation, Armonk, N.Y.

[21] Appl. No.: 531,579

[22] Filed: Sep. 21, 1995

Related U.S. Application Data

[63] Continuation of Ser. No. 966,821, Dec. 31, 1992, abandoned.

[51] Int. Cl.⁶ G06F 13/00

[52] U.S. Cl. 395/200.01; 395/200.14; 395/285; 370/466; 370/469

[58] Field of Search 395/650, 500, 395/200.01, 200.14, 285, 800; 370/85.1, 85.13, 60

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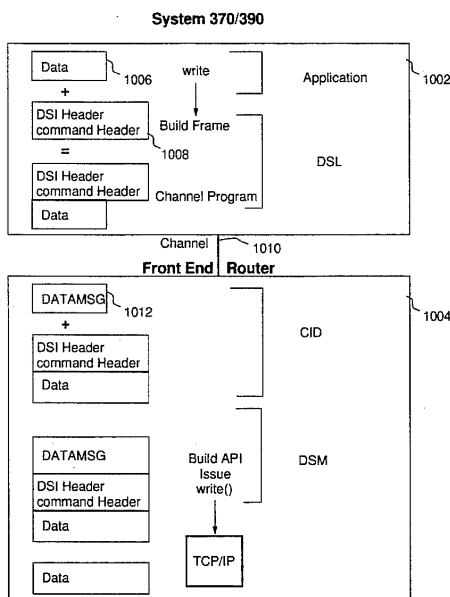
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Assistant Examiner—Duo Chen
Attorney, Agent, or Firm—Gerald R. Woods

[57] ABSTRACT

A system and method for distributing application-to-application network communications protocol processing. Host computers implement distributed API processing across a high speed I/O channel increasing throughput. The application API conforms to standard protocols but protocol processing is distributed using a cross-channel distributed sockets API at the session layer. This API allows multiplexing of data from one or more hosts to one or more front end routers managing network communications. Multiplexing increases network performance through parallel processing and advantageously employs host high speed I/O functions. Front end routers perform lower level protocol tasks necessary to exchange data over the communications network.

7 Claims, 16 Drawing Sheets



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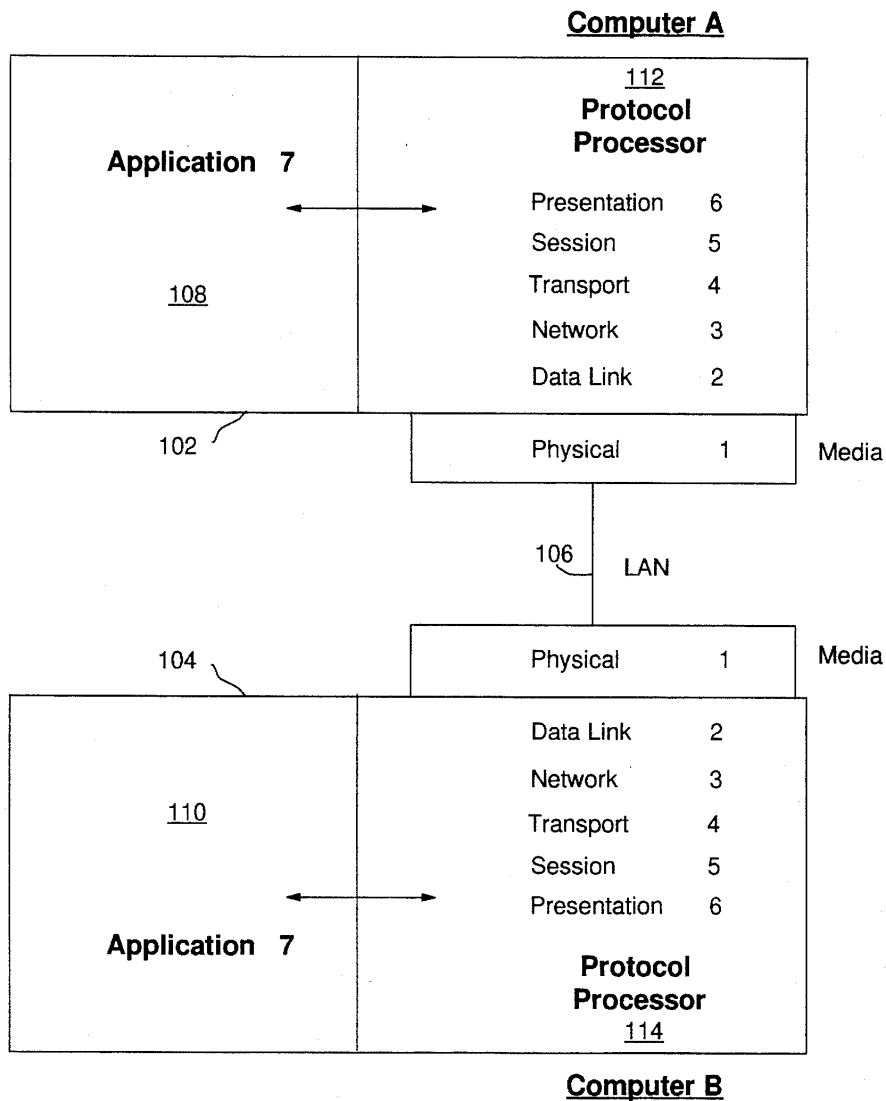


FIG. 1

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System 370/390

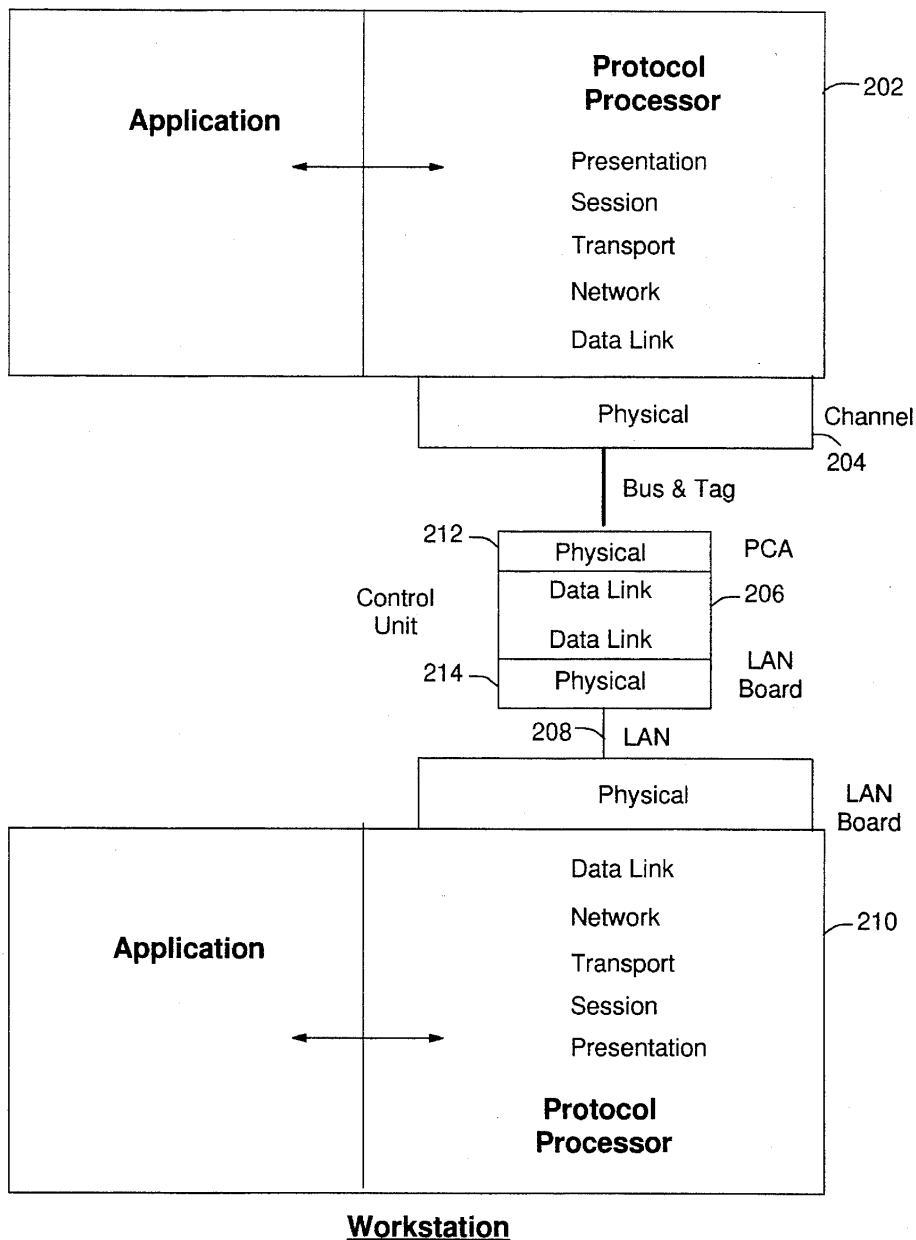


FIG. 2 Prior Art

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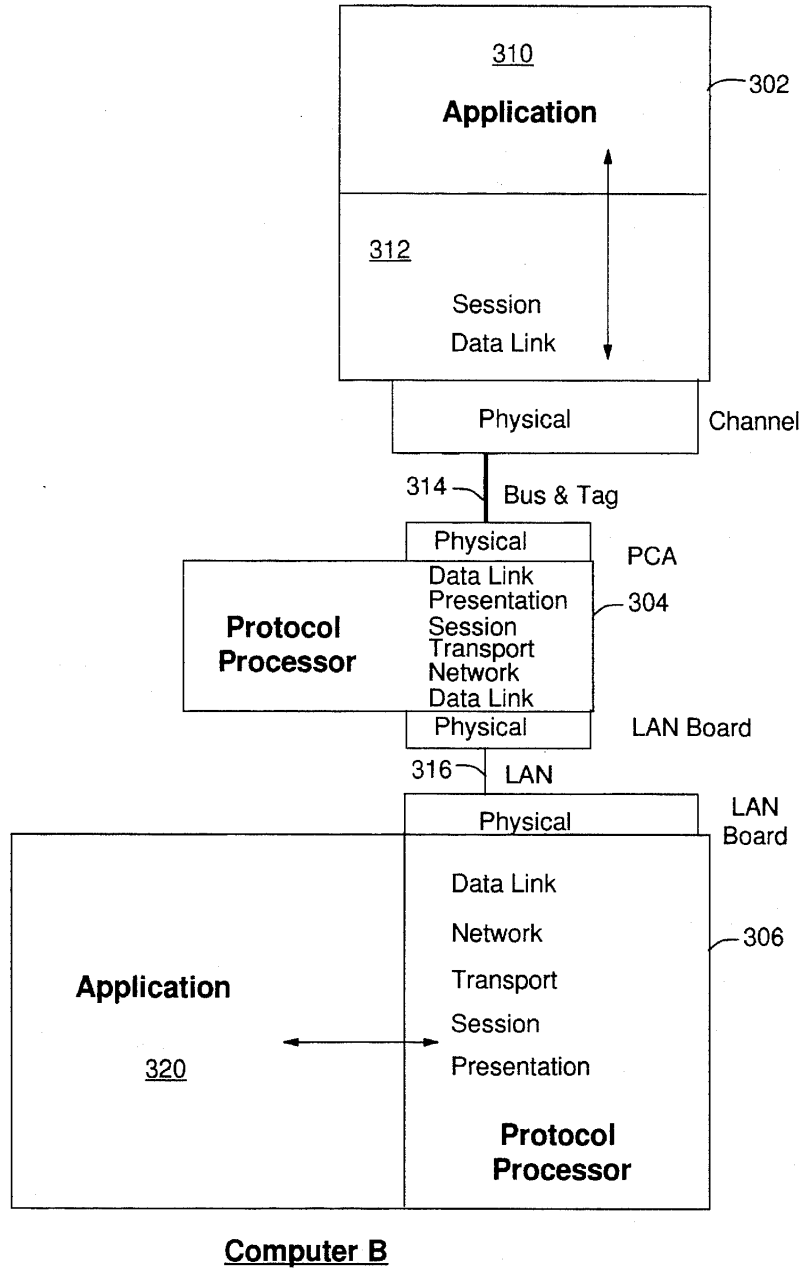


FIG. 3

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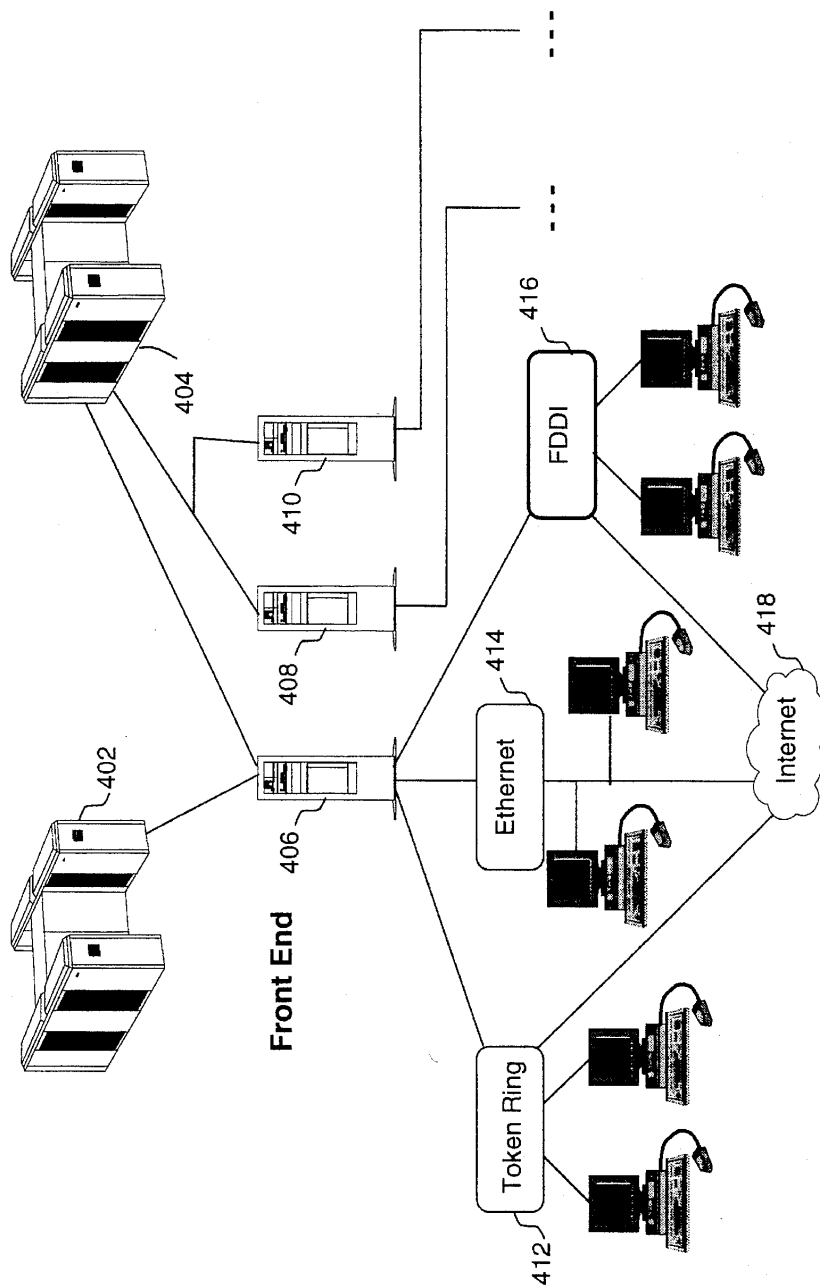


FIG. 4

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