



US005619650A

# United States Patent [19]

[11] Patent Number: **5,619,650**

Bach et al.

[45] Date of Patent: **Apr. 8, 1997**

[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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| 5,490,252 | 2/1996  | Macera et al.  | 395/200.01 |

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[21] Appl. No.: **531,579**

## [57] ABSTRACT

[22] Filed: **Sep. 21, 1995**

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.

### Related U.S. Application Data

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

[51] Int. Cl.<sup>6</sup> ..... **G06F 13/00**

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

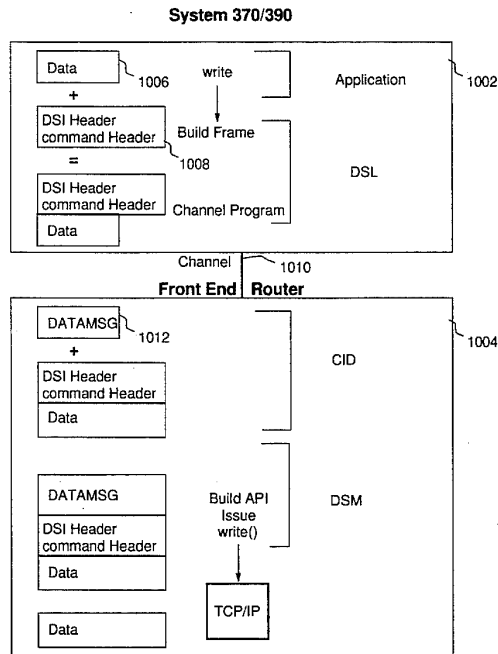
[58] Field of Search ..... **395/650, 500, 395/200.01, 200.14, 285, 800; 370/85.1, 85.13, 60**

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**7 Claims, 16 Drawing Sheets**



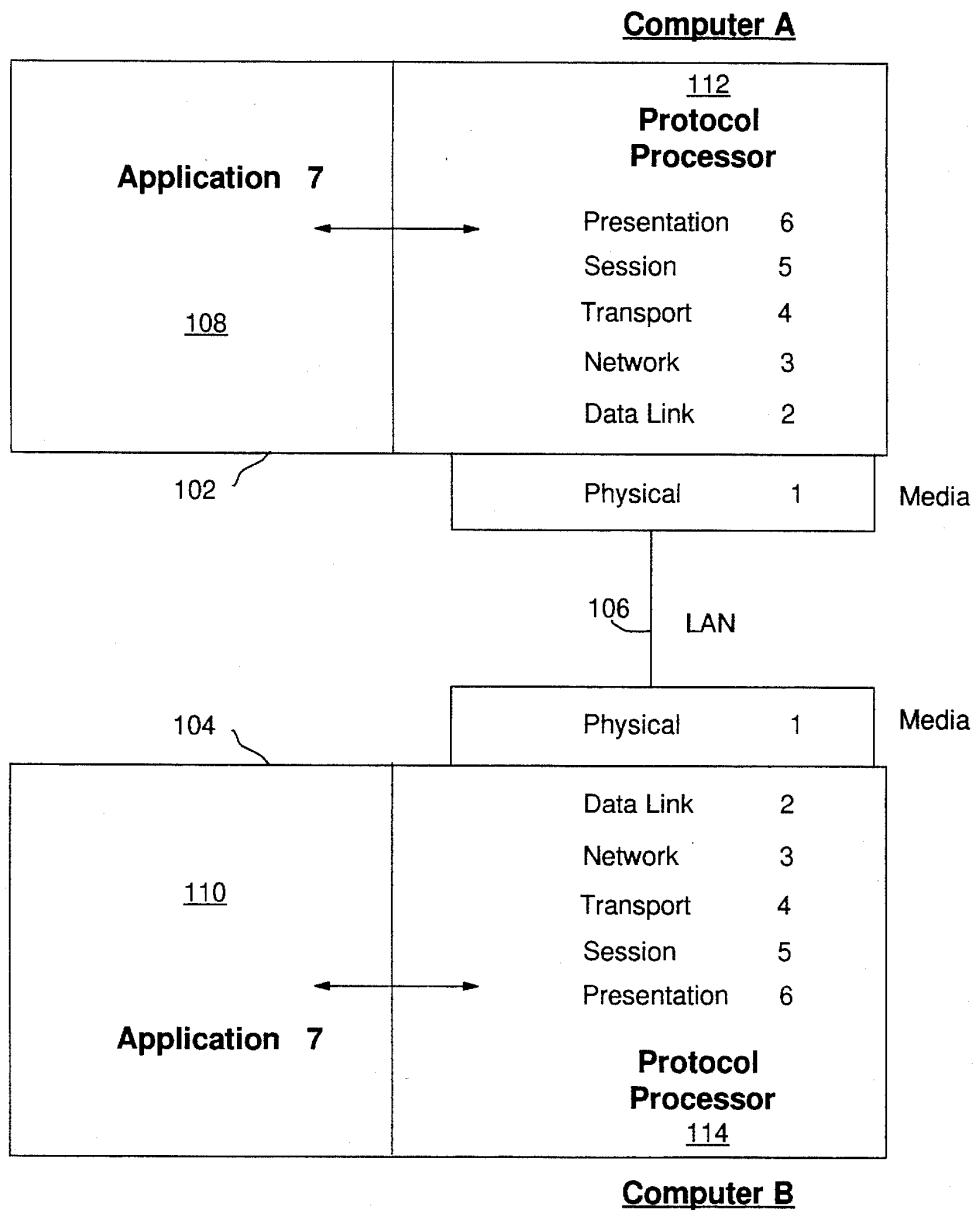


FIG. 1

System 370/390

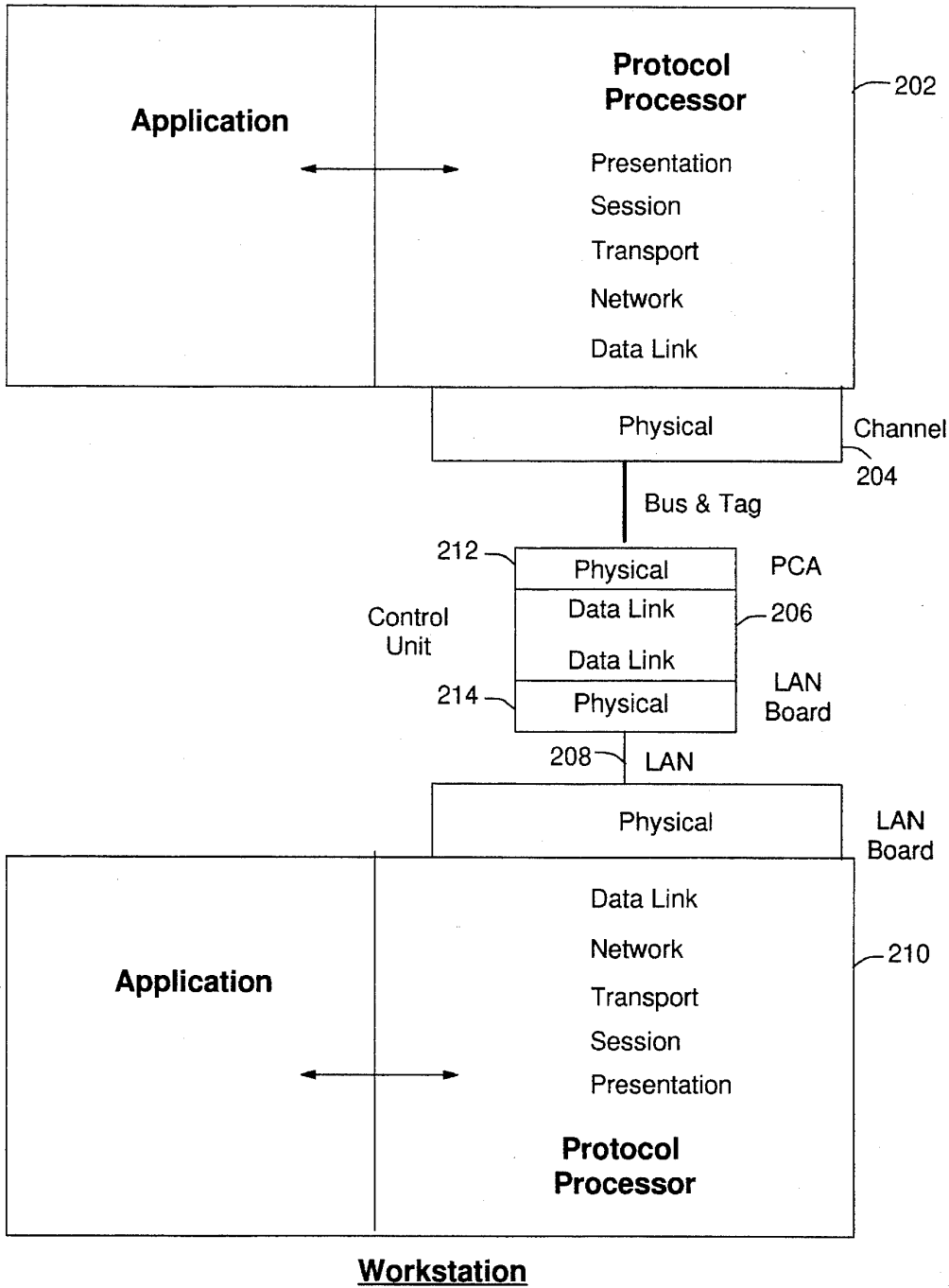


FIG. 2 Prior Art

System 370/390

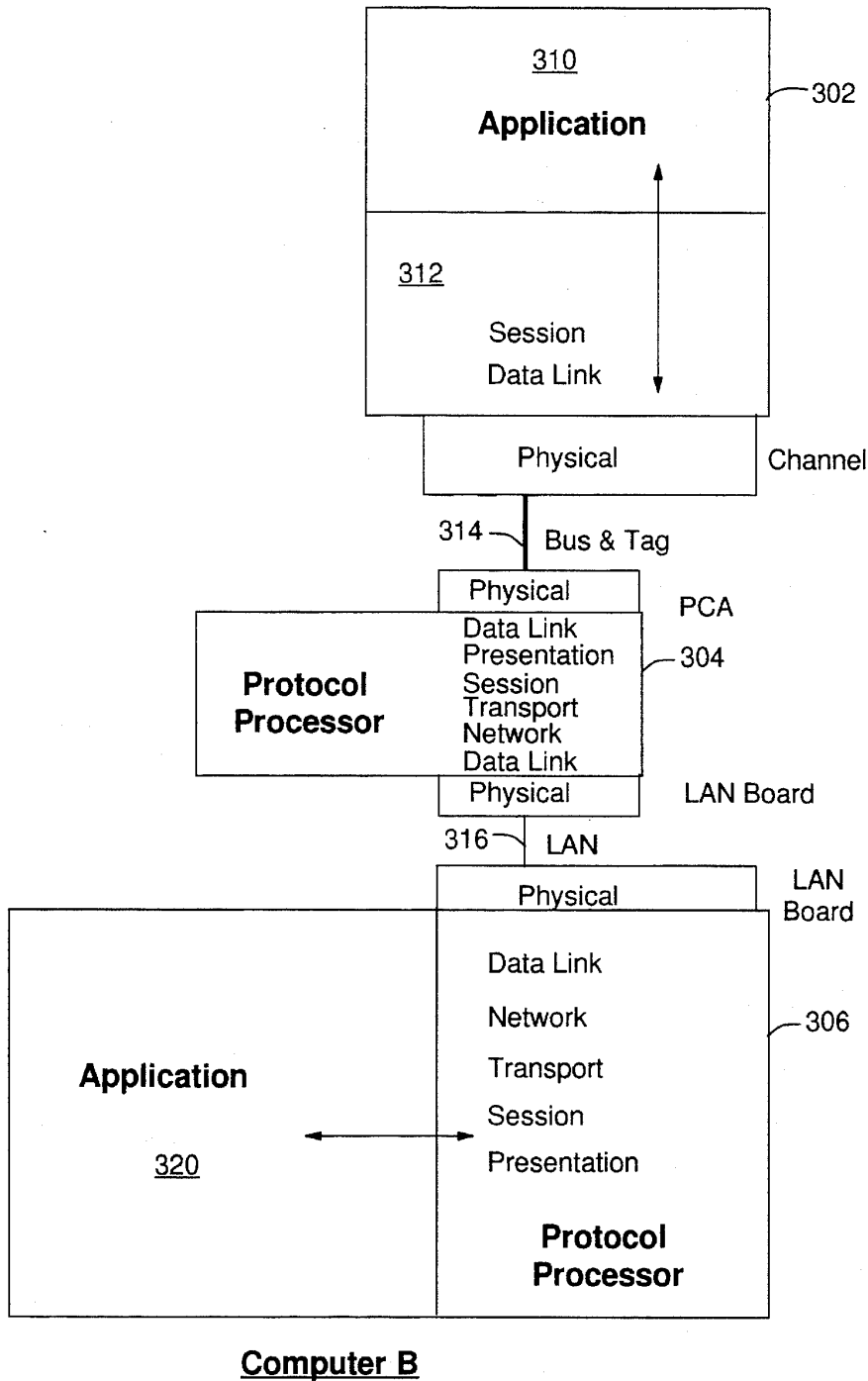


FIG. 3

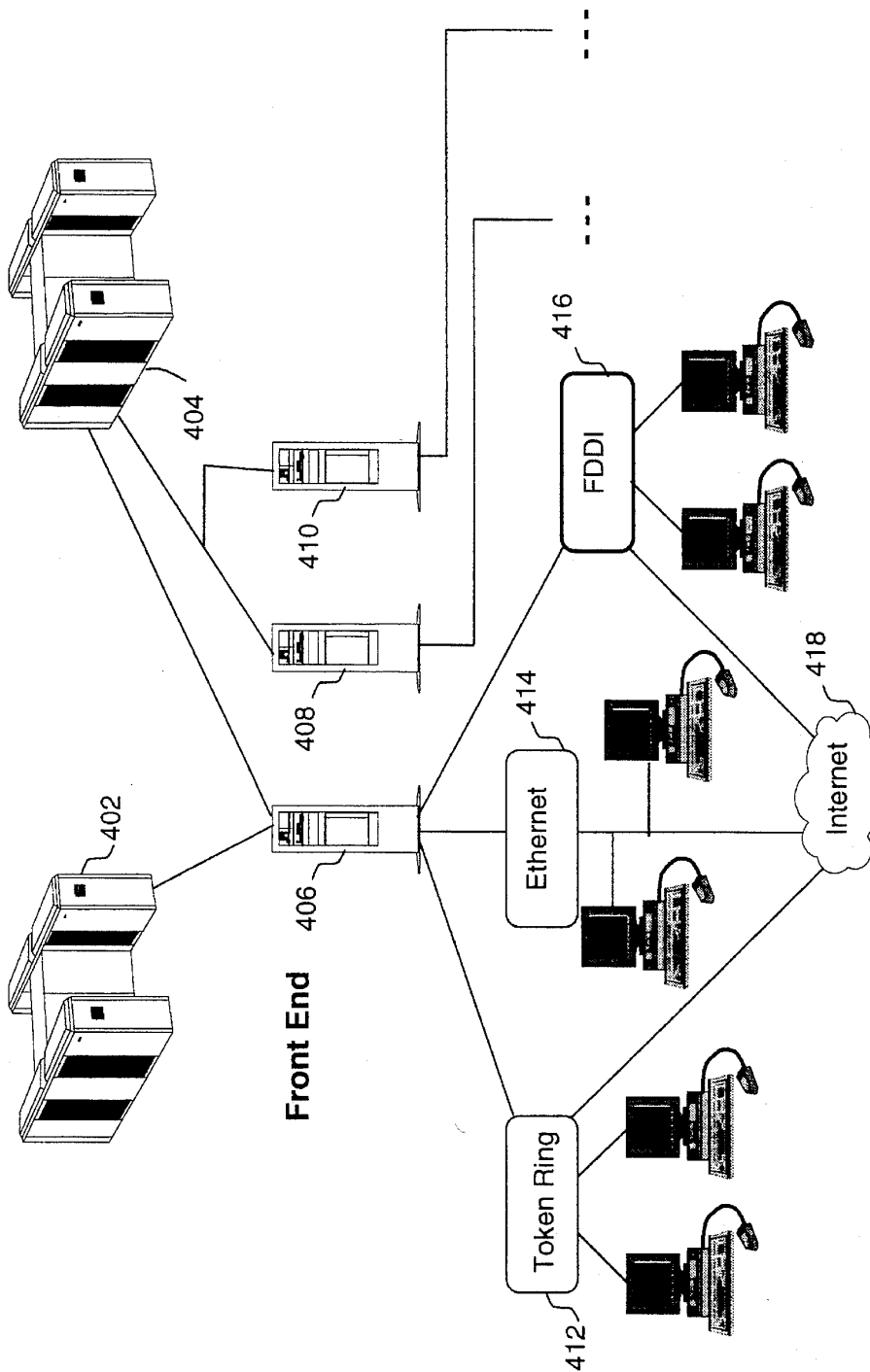


FIG. 4

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