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United States Patent [19]

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

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

4,768,150	8/1988	Chang et al.	364/300
4,855,905	8/1989	Estrada et al.	364/200
4,941,089	7/1990	Fischer	364/200
5,124,909	6/1992	Blakely	395/200
5,142,622	8/1992	Owens	395/200
5,251,205	10/1993	Callon et al.	370/60
5,287,537	2/1994	Newmark et al.	395/800
5,307,346	4/1994	Fieldhouse	370/85.1
5,309,437	5/1994	Perlman et al.	370/85.13
5,327,558	7/1994	Burke et al.	395/650
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**

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**

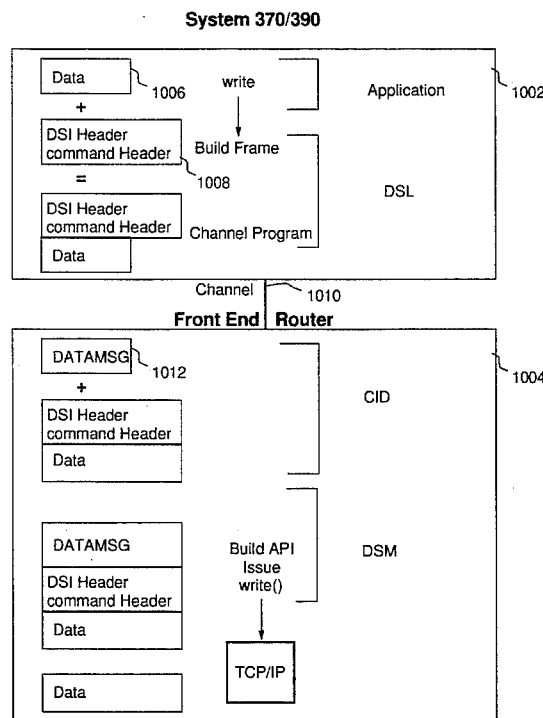
A system and method for distributing application-to-application network communications protocol processing. Host computers implement distributed API processing across a high speed I/O channel increasing throughput. The application API conforms to standard protocols but protocol processing is distributed 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.

[56] References Cited

U.S. PATENT DOCUMENTS

4,428,043 1/1984 Catiller et al. 364/200

7 Claims, 16 Drawing Sheets



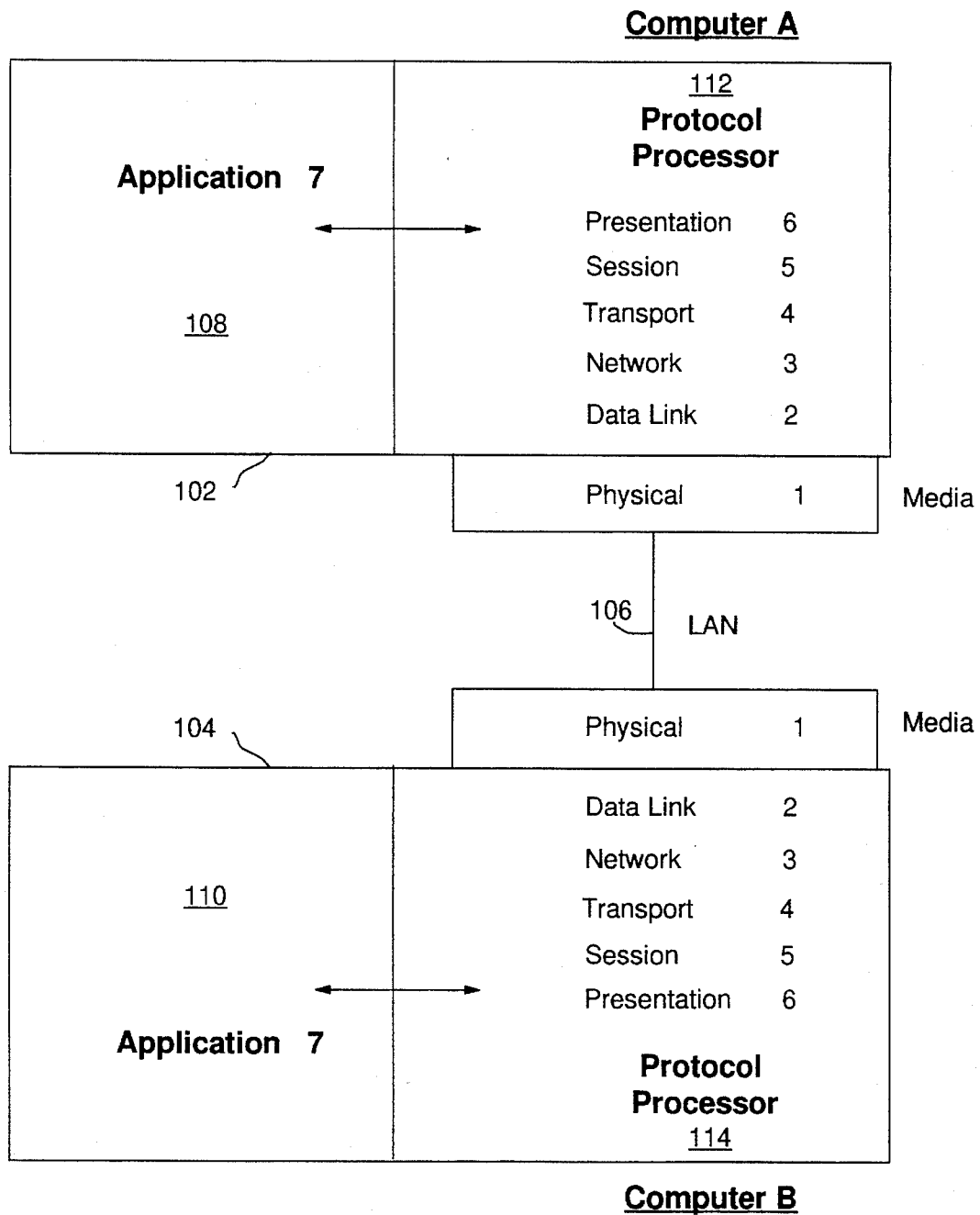


FIG. 1

System 370/390

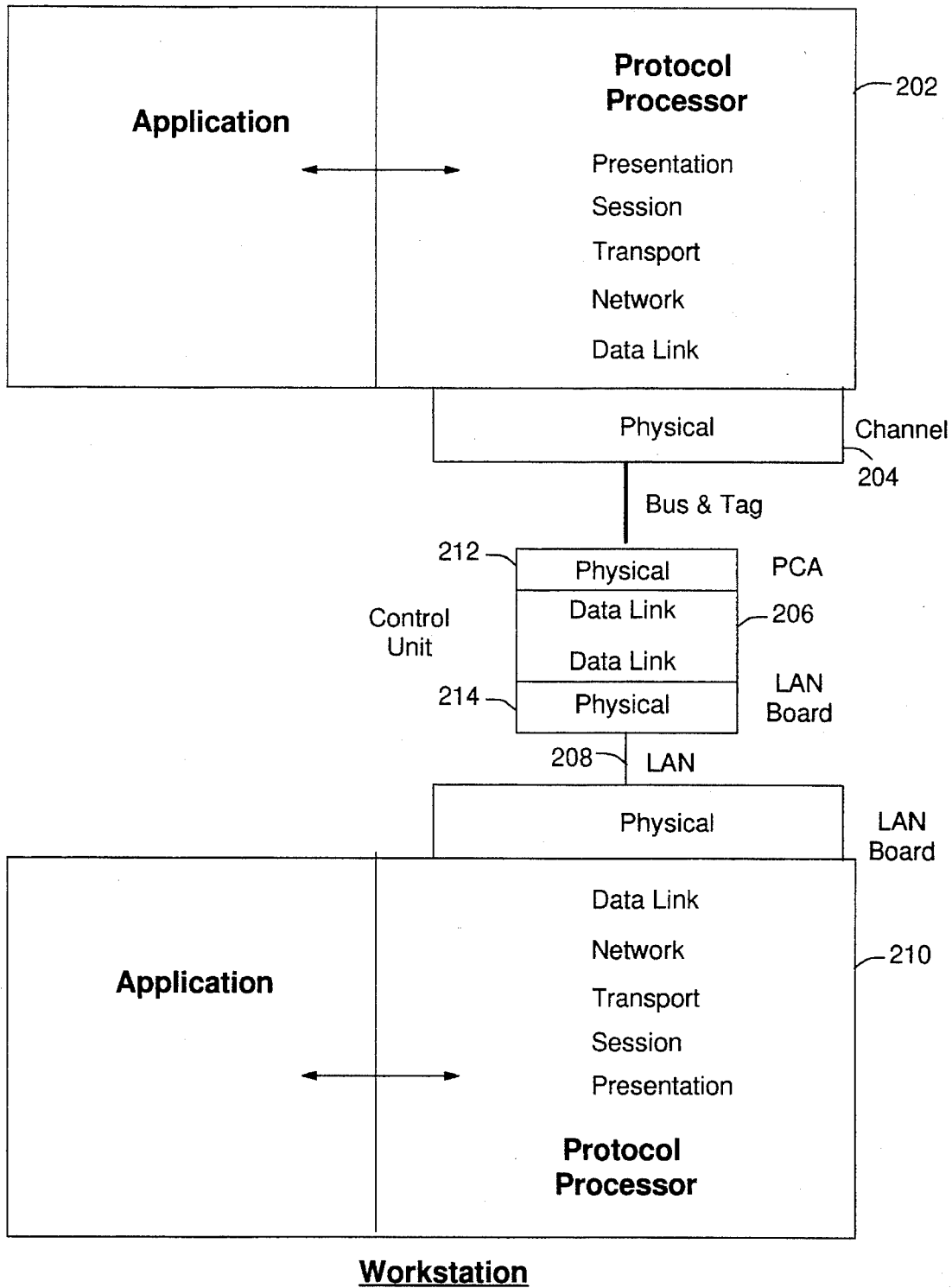


FIG. 2 Prior Art

System 370/390

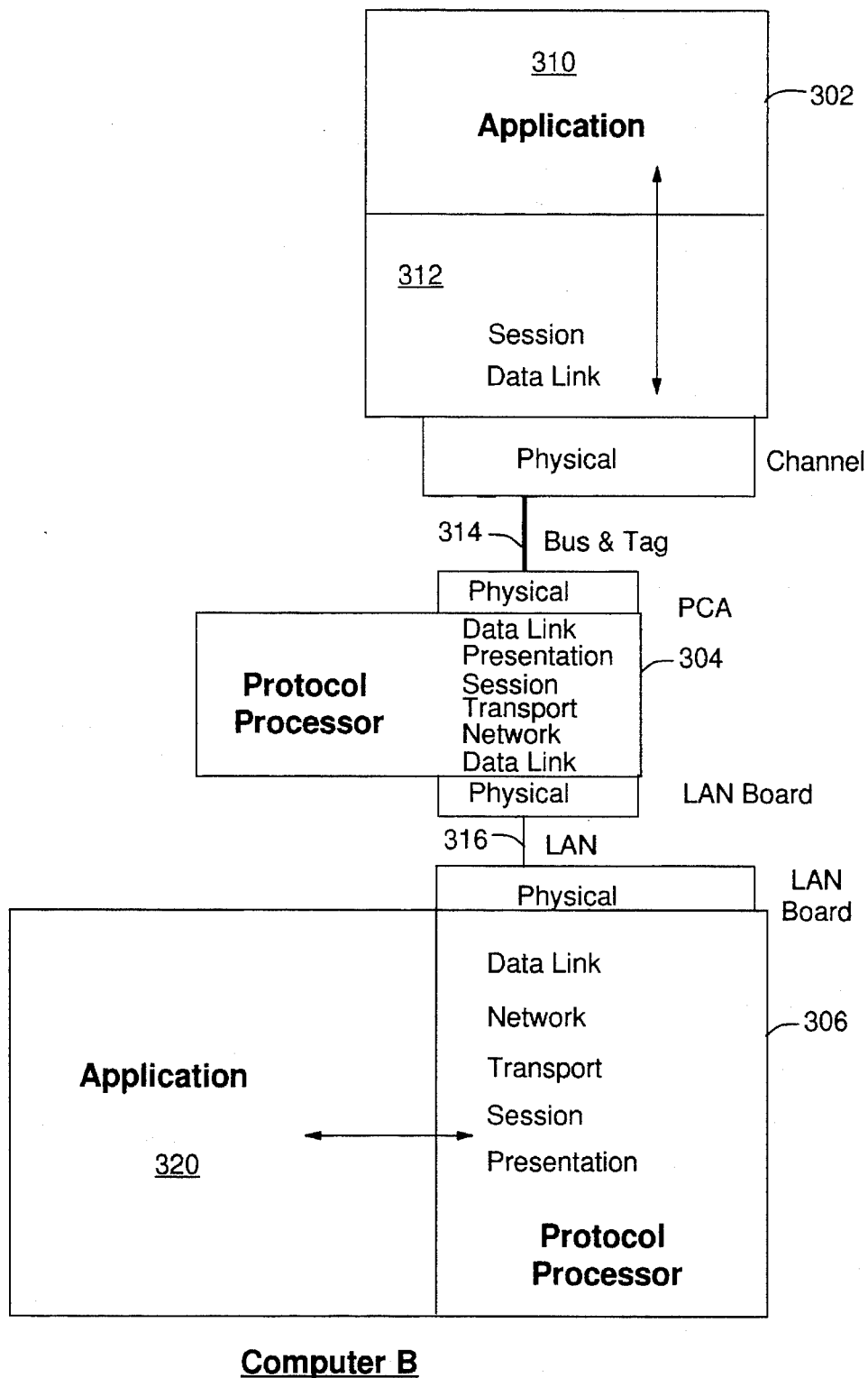


FIG. 3

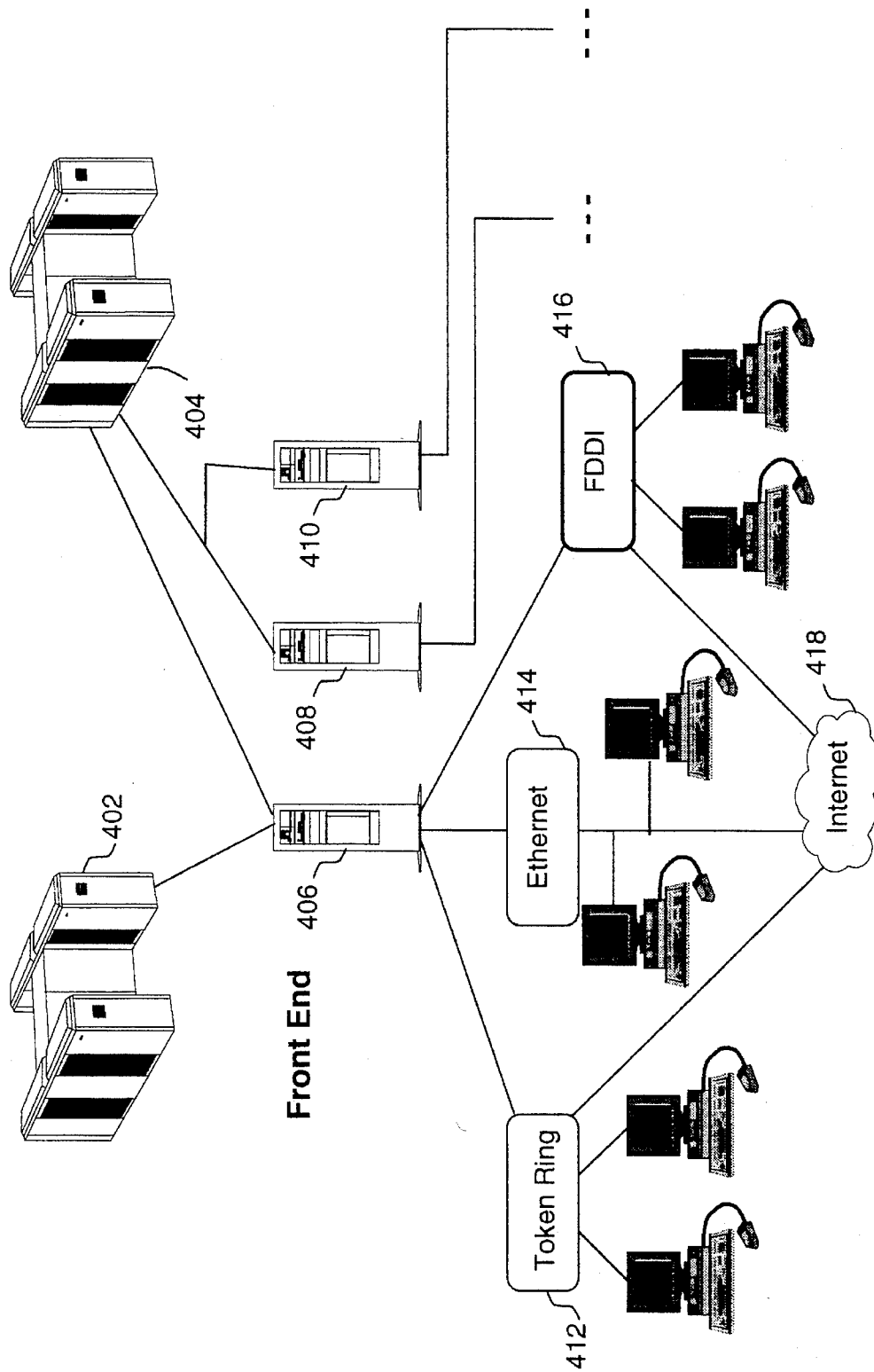


FIG. 4

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