



US005307413A

United States Patent [19]

Denzer

[11] **Patent Number:** **5,307,413**[45] **Date of Patent:** **Apr. 26, 1994****[54] METHOD AND APPARATUS FOR ADDING DATA COMPRESSION AND OTHER SERVICES IN A COMPUTER NETWORK**[75] **Inventor:** Philip C. Denzer, Wellesley, Mass.[73] **Assignee:** Process Software Corporation, Framingham, Mass.[21] **Appl. No.:** 733,104[22] **Filed:** Jul. 19, 1991[51] **Int. Cl.⁵** H04B 1/66; H04L 9/00[52] **U.S. Cl.** 380/49; 380/9; 370/109; 375/122[58] **Field of Search** 380/4, 9, 25, 49, 50; 395/21, 24, 25; 364/240.8, 242.94-242.96, 274.9, 276.6, 940.61-940.62, 940.81, 972.4; 375/122; 340/825.8, 825.5; 381/34, 35; 370/109**[56] References Cited****U.S. PATENT DOCUMENTS**

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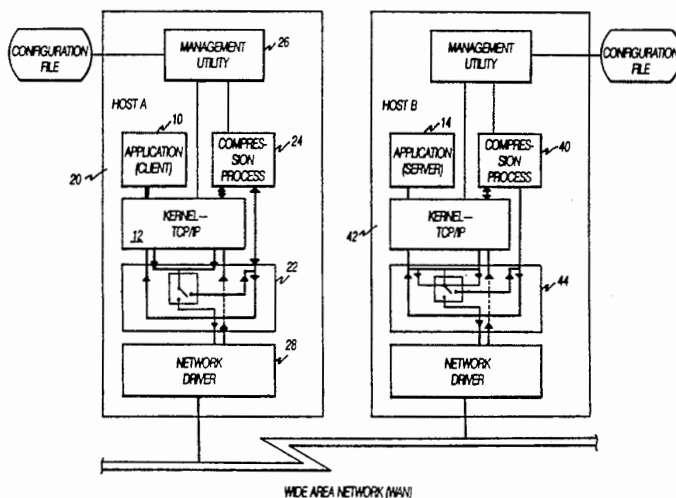
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[57] ABSTRACT

A connection specific compression system is selectively implemented in connections having the greatest data redundancy and utilizes modularity in implementing data compression in a layered network communication system. A data compression facility is interfaced in the layered system and intercepts data at a protocol layer prior to the data being packetized for transmission. A system acting as a compression host comprises a data packet switch driver which intercepts application data packets passing over layered network interfaces and routes selected client application data packets to an associated local compression process which has an integral network protocol and which compresses the data stream in accordance with a selected compression algorithm. The compressed data passes through the system network protocol and the packet switch driver subsequently sends the compressed data back into the communications stream through a network driver. The compressed data passes across the network communication channel and is received by a decompression host having peer compression/decompression capabilities. The peer compression process decompresses the received data and sends it, via a second/decompression host resident packet switch driver, as though received from the network, into the decompression host system network protocol for connection with an application running on the second host.

19 Claims, 9 Drawing Sheets

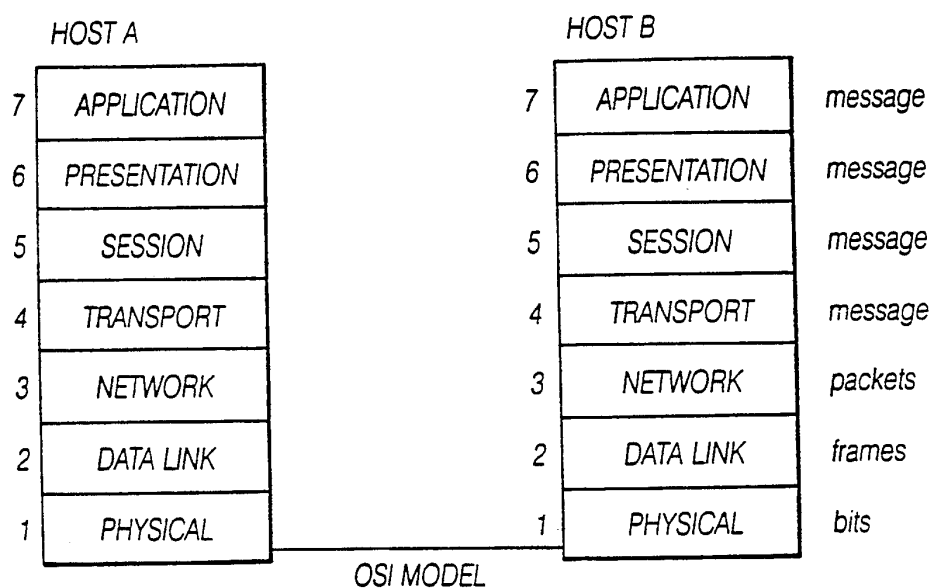


Fig. 1
(PRIOR ART)

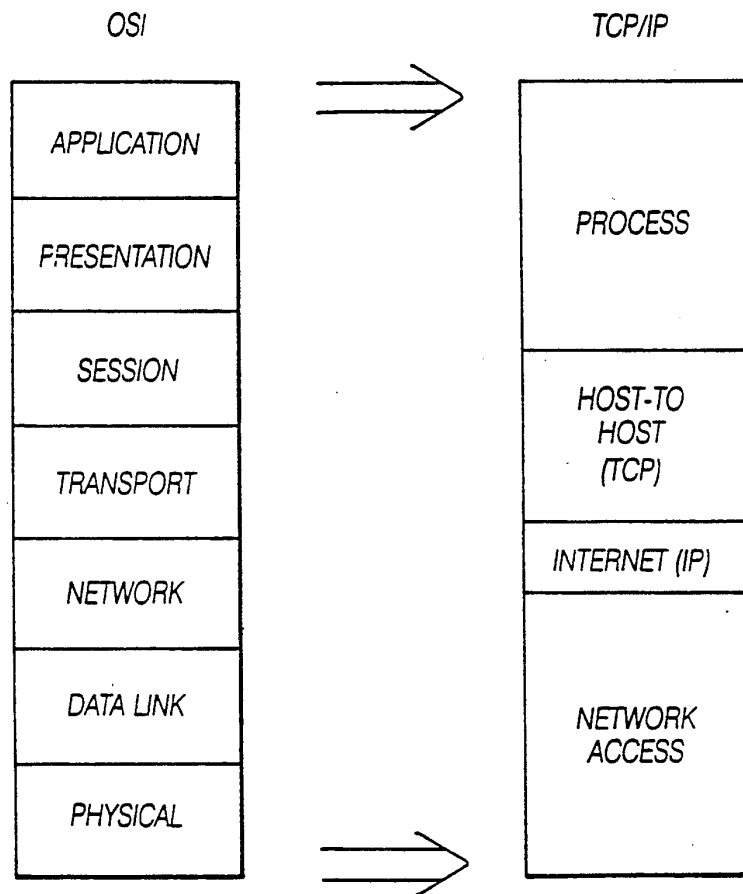
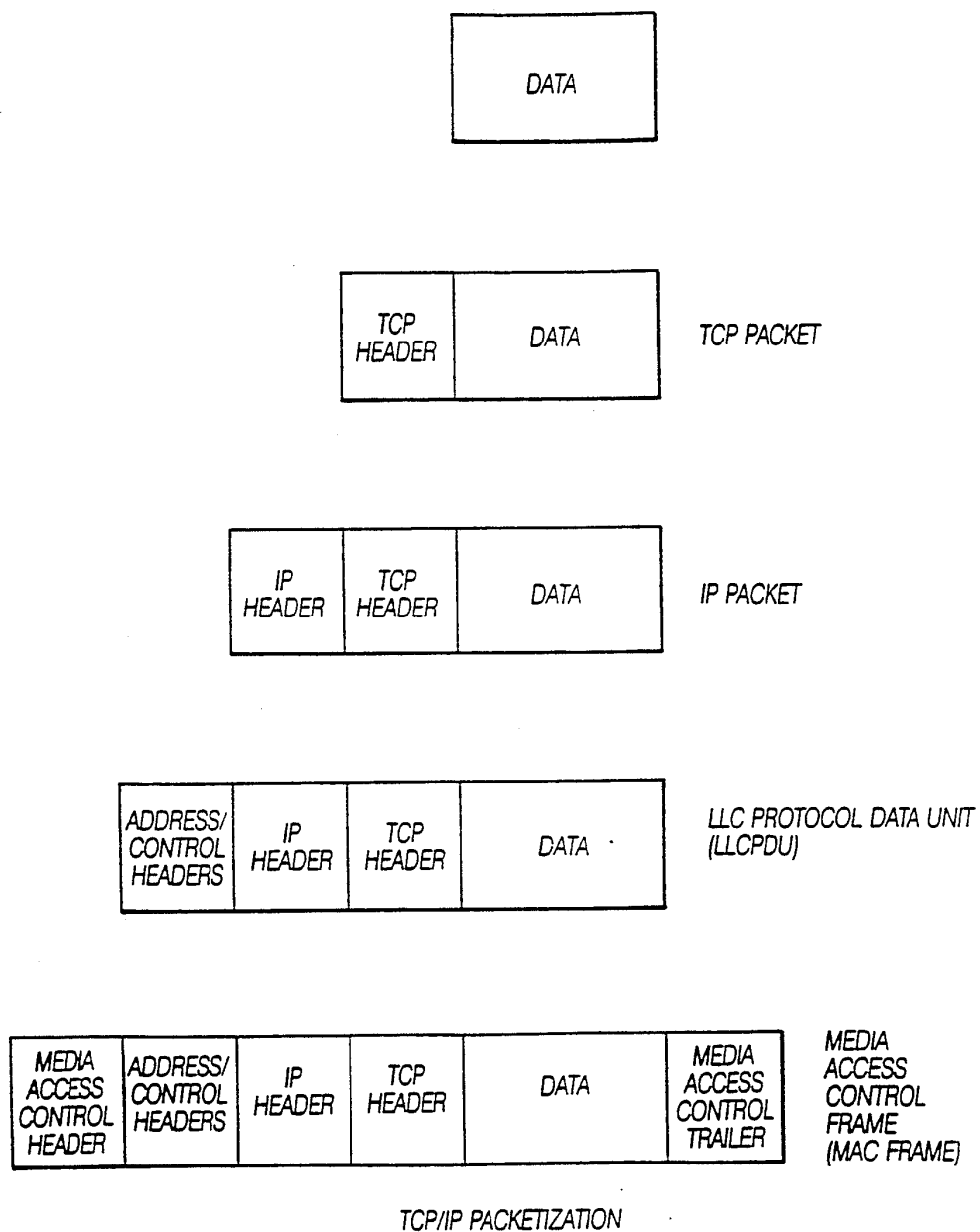


Fig. 1a
(PRIOR ART)

**Fig. 2**

(PRIOR ART)

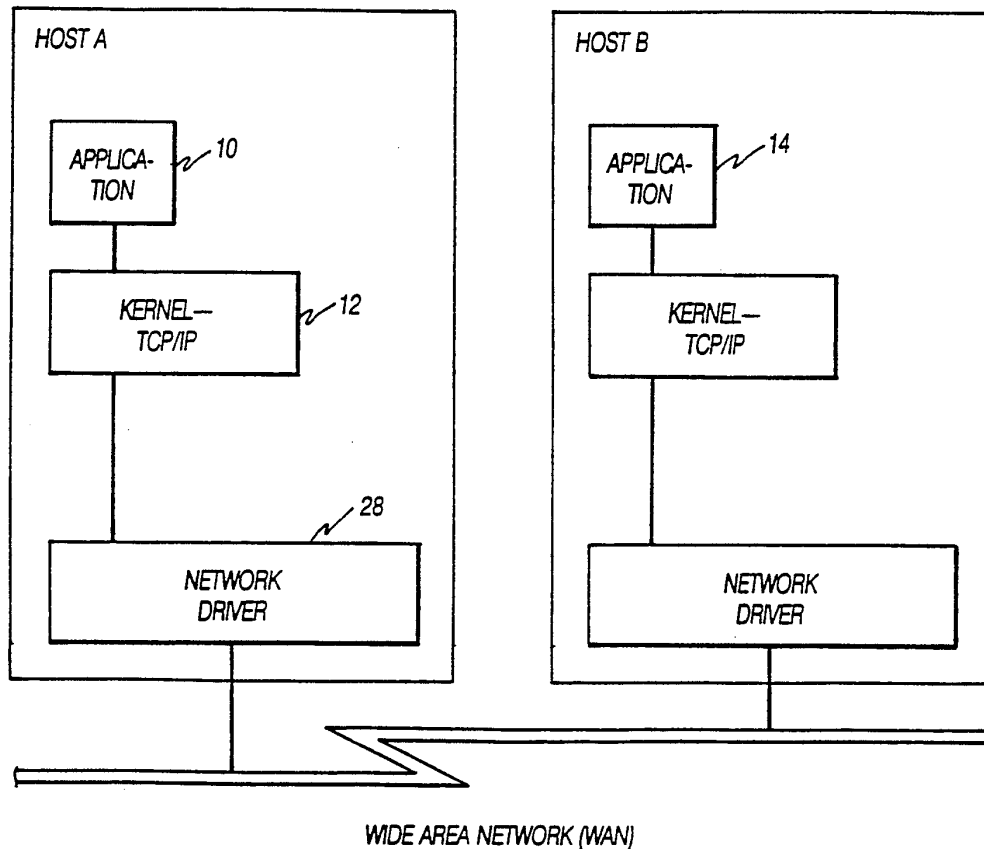


Fig. 3
(PRIOR ART)

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