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Barnes et al.

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(54) PACKET ROUTING AND SWITCHING DEVICE	5,909,440 A	6/1999	Ferguson et al.	370/389
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(21) Appl. No.: **10/177,496**

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(Continued)

Related U.S. Application Data

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(51) **Int. Cl.**
H04L 12/28 (2006.01)

(52) **U.S. Cl.** **370/401**; 370/414; 370/473

(58) **Field of Classification Search** 370/392, 370/389, 349, 395.31

See application file for complete search history.

(57) **ABSTRACT**

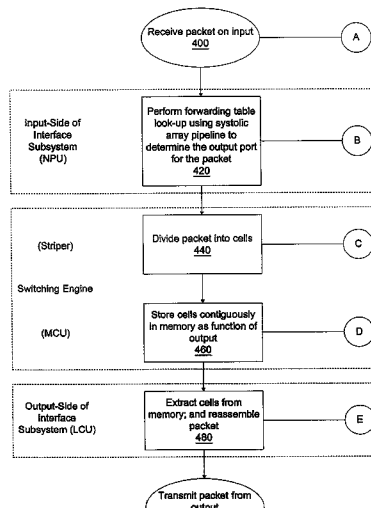
A method for routing and switching data packets from one or more incoming links to one or more outgoing links of a router. The method comprises receiving a data packet from the incoming link, assigning at least one outgoing link to the data packet based on the destination address of the data packet, and after the assigning operation, storing the data packet in a switching memory based on the assigned outgoing link. The data packet extracted from the switching memory, and transmitted along the assigned outgoing link. The router may include a network processing unit having one or more systolic array pipelines for performing the assigning operation.

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29 Claims, 56 Drawing Sheets



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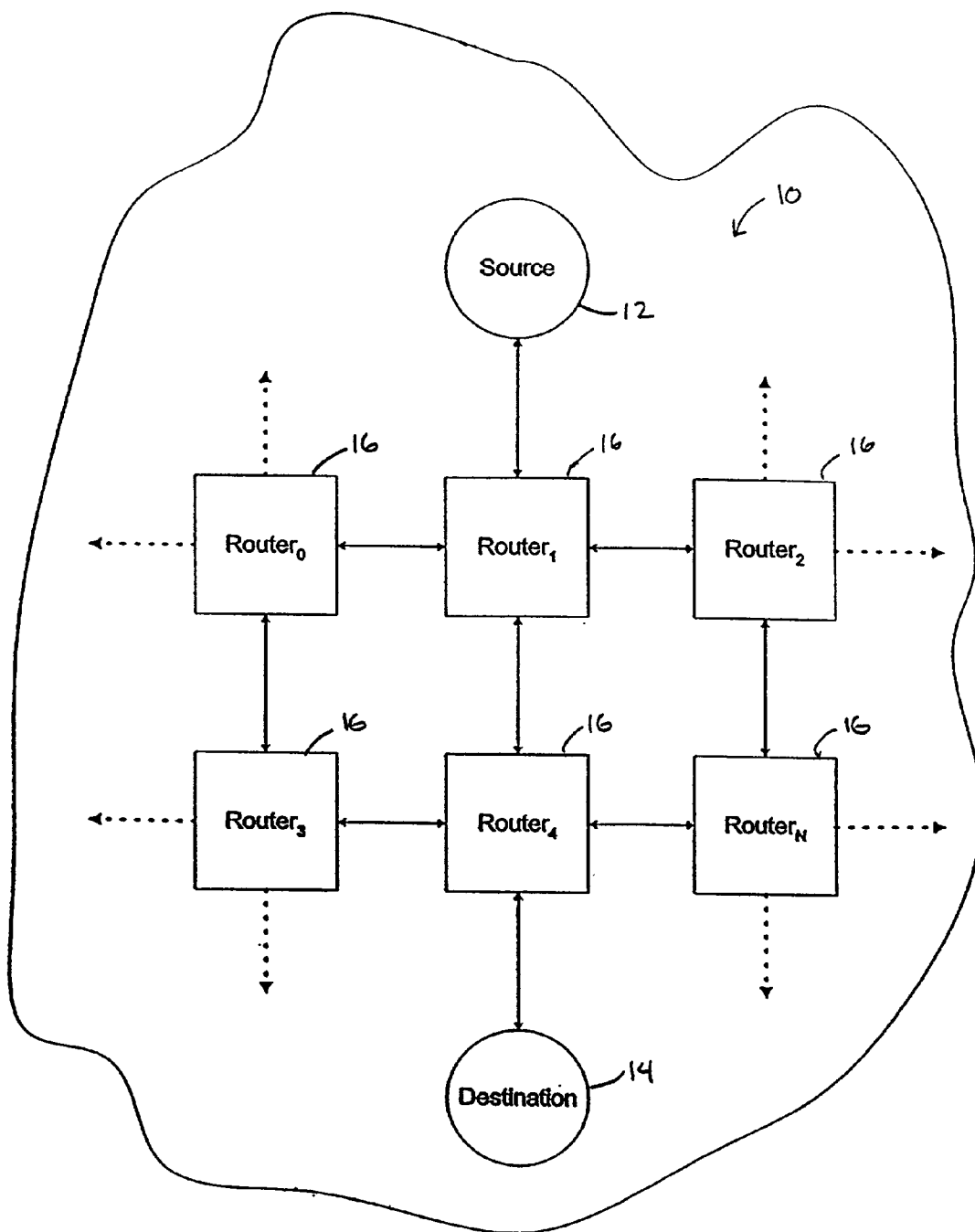


Fig. 1

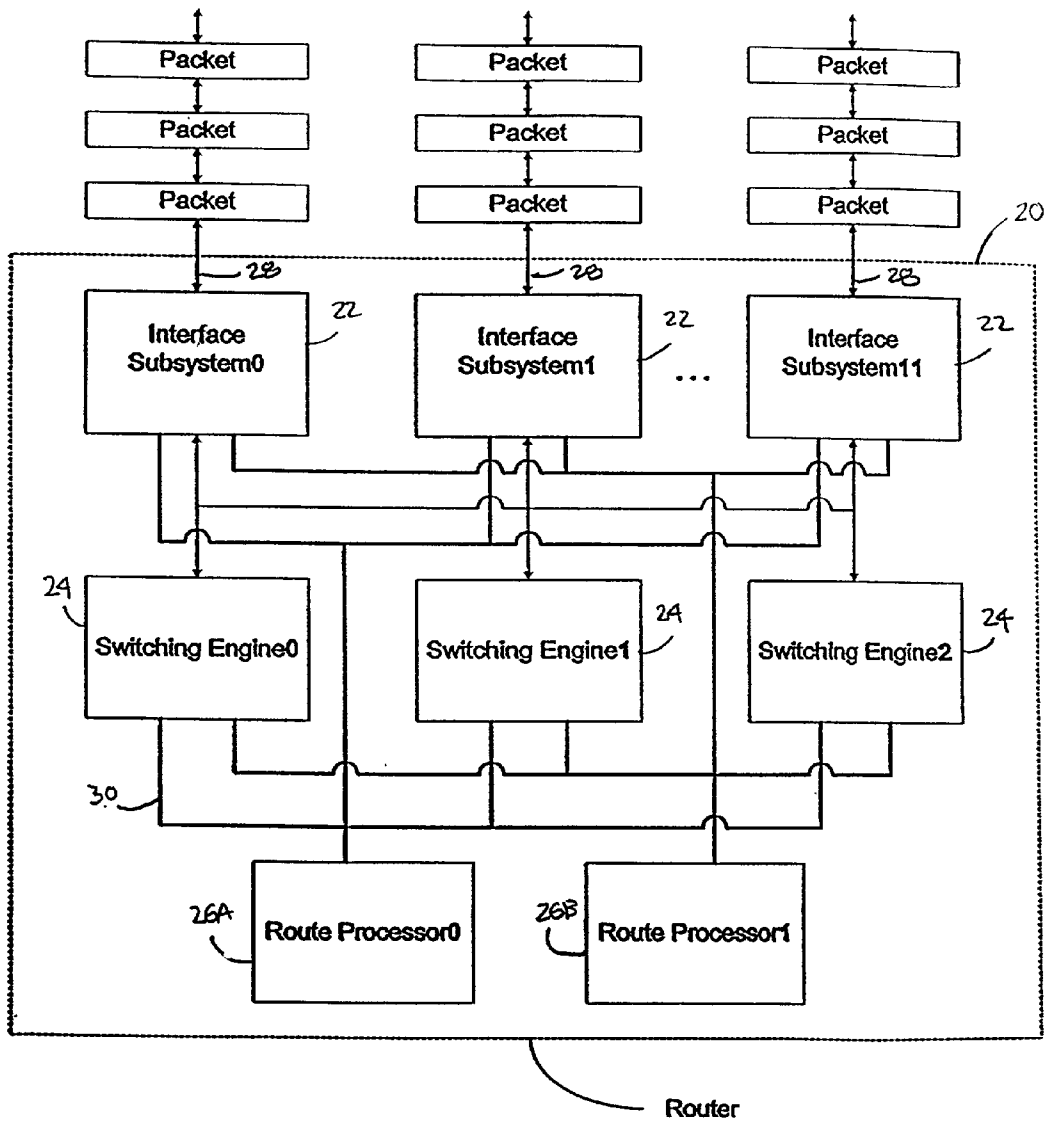


Fig. 2

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