



(12) **United States Patent**  
**Gilbert et al.**

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(54) **RING-ORDERED DYNAMICALLY RECONFIGURABLE NETWORK USING AN EXISTING COMMUNICATIONS SYSTEM**

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(73) Assignee: **Gateway, Inc.**, Poway, CA (US)

(\*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **08/670,609**

(22) Filed: **Jun. 26, 1996**

(51) **Int. Cl.**<sup>7</sup> ..... **H04J 3/00**

(52) **U.S. Cl.** ..... **370/222; 370/224**

(58) **Field of Search** ..... 370/216, 217, 370/220, 222, 223, 224, 225, 227, 228, 408, 407, 406, 405, 404, 403, 402, 522, 431, 524, 537, 465, 468, 252, 254; 395/181; 340/827, 825.01, 825.03; 379/221

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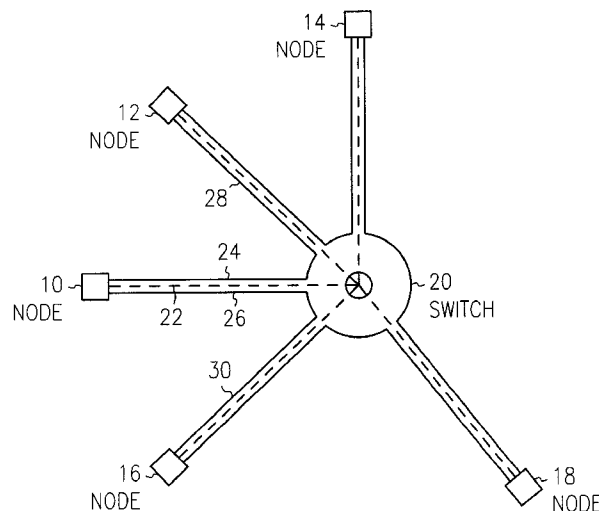
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(57) **ABSTRACT**

A ring-ordered dynamically reconfigurable computer network utilizing an existing communications system. The network comprises a plurality of nodes. Each node is coupled to the existing communications system by two data channels and a control channel. The network is established by each data channel of each node connecting operably to a data channel of another node. All the nodes are ordered in a ring. The control channel of each node is operably connected to the switch of the existing communications system. The network also comprises a network manager to establish the network, facilitate communication among the nodes, and dynamically reconfigure the network without disturbing communication among the nodes. Optionally, each node connects to the network only when it actually needs to communicate with another node.

**50 Claims, 5 Drawing Sheets**



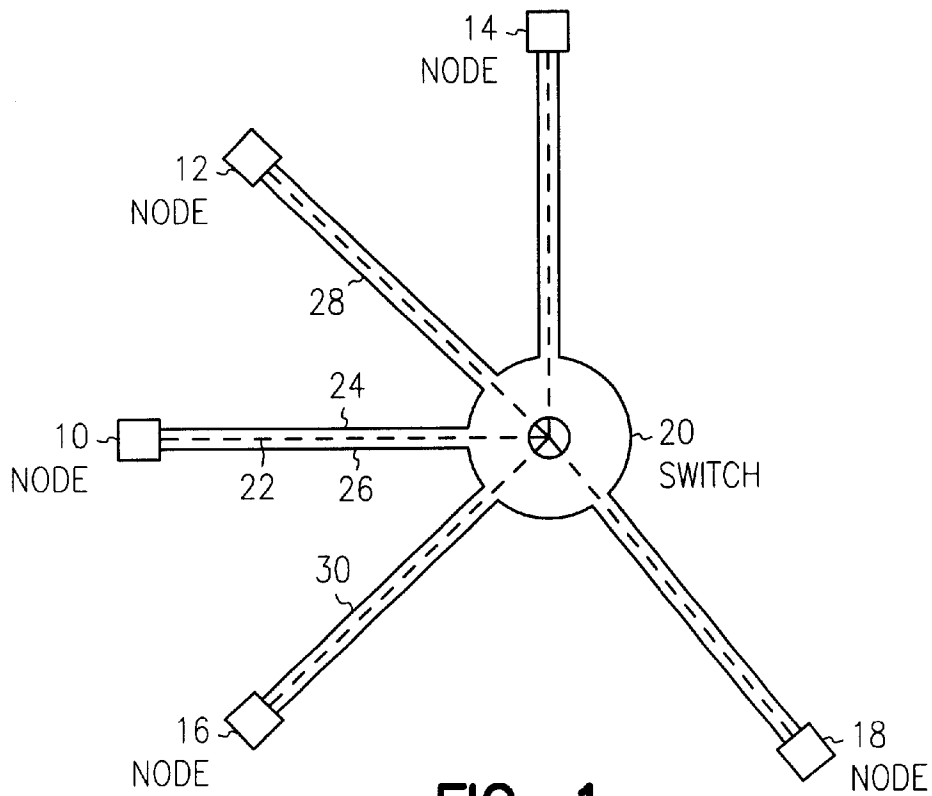


FIG. 1

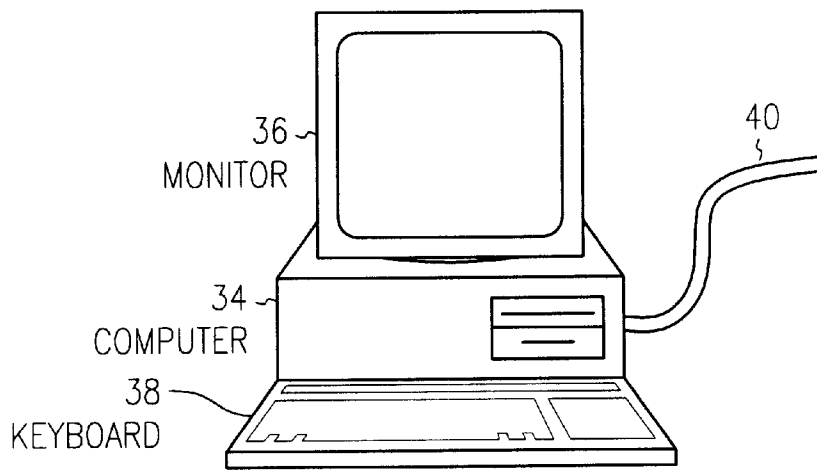


FIG. 2

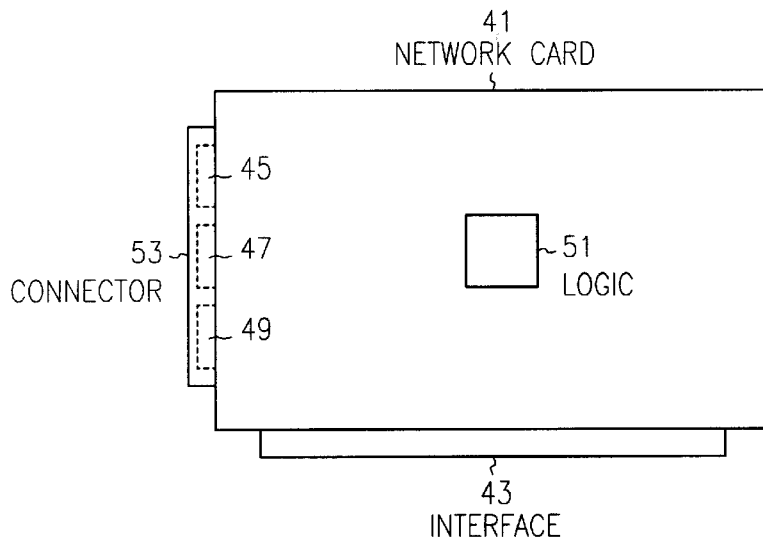


FIG. 3

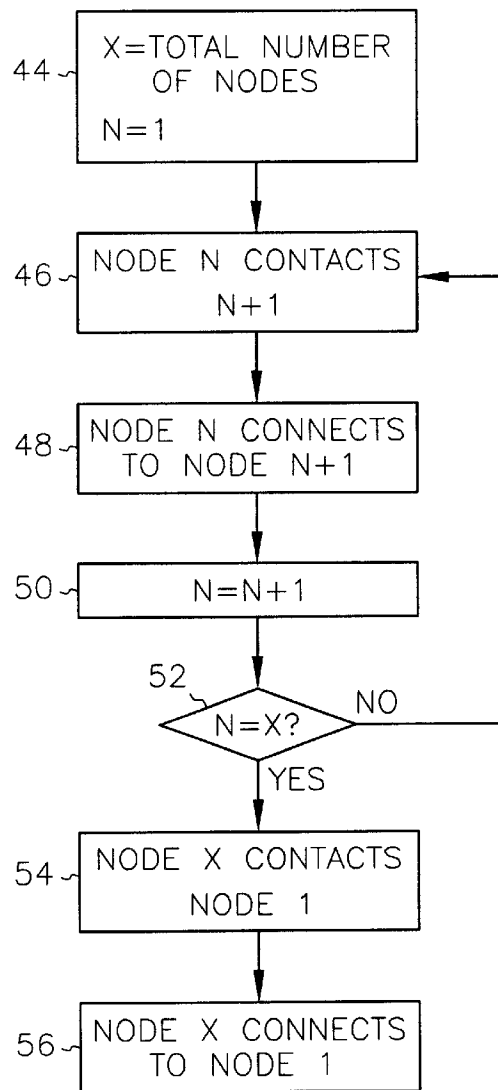


FIG. 4

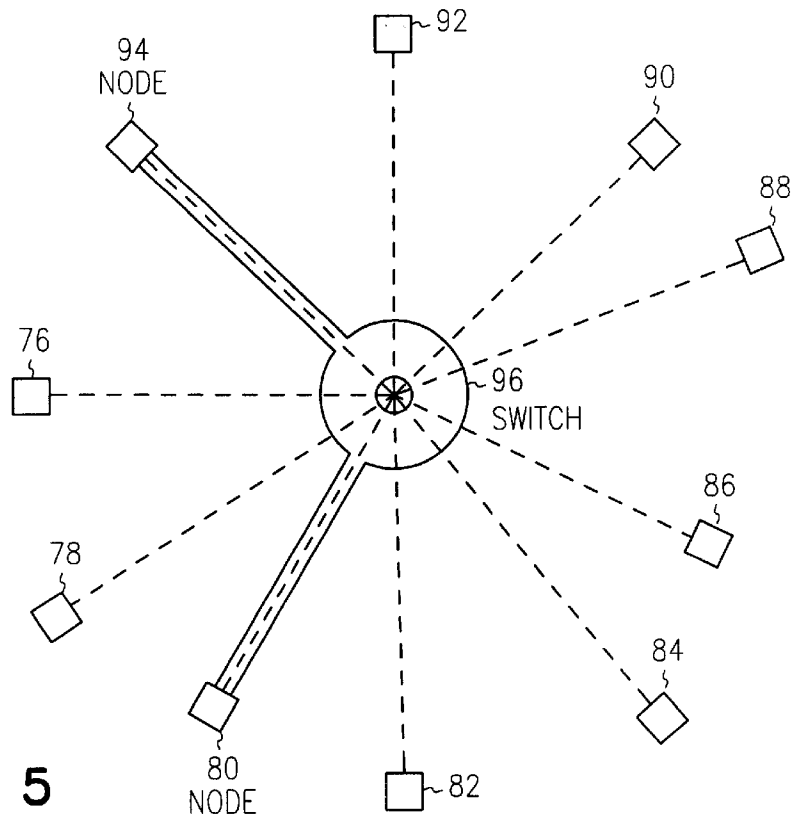


FIG. 5

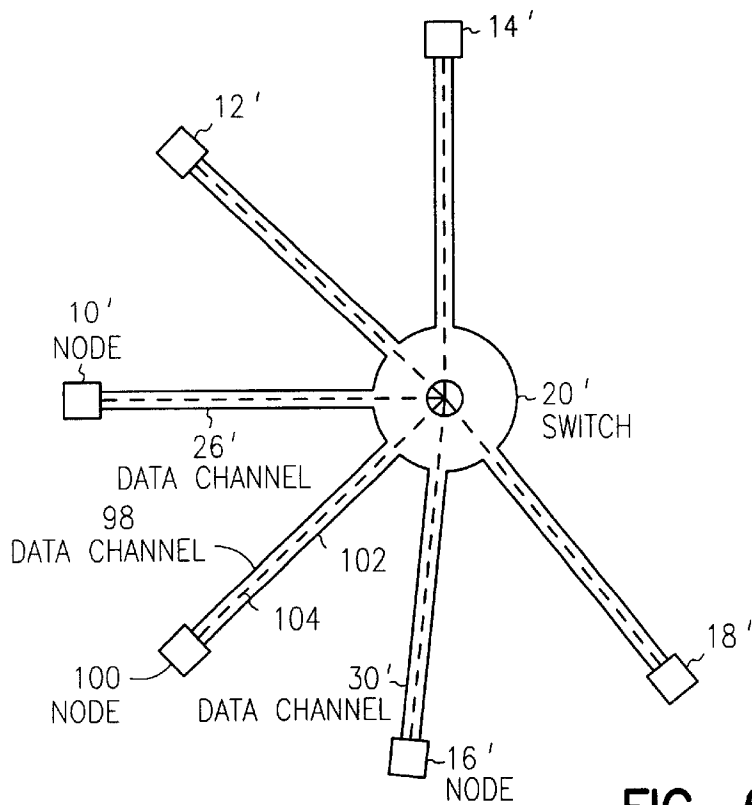


FIG. 6

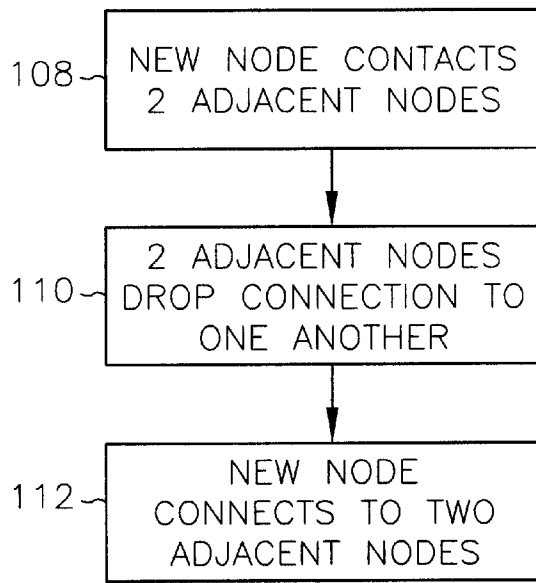


FIG. 7

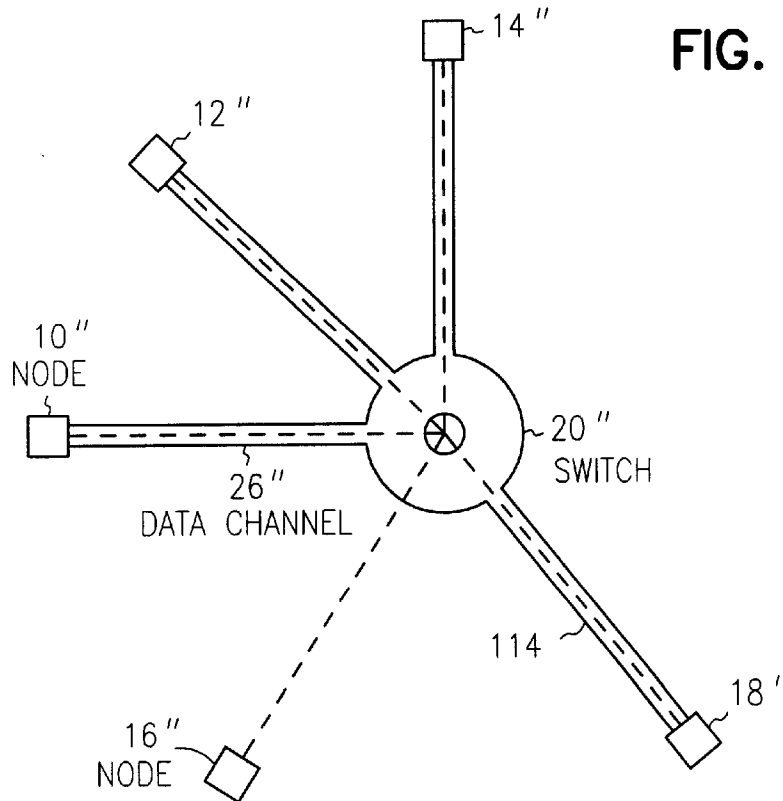


FIG. 8

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