Title: SYSTEMS AND METHODS FOR AUTOMATICALLY PLACING NODES IN AN AD HOC NETWORK FOR ACHIEVING BICONNECTIVITY

Abstract: A system may place nodes (110) within a non-biconnected network (100) that includes multiple interconnected nodes (110) to achieve biconnectivity within the network (100) and transform the network (100) from a non-biconnected one to a biconnected one. A non-biconnected network is one that necessarily becomes partitioned into two or more disconnected networks if a node in a critical position (termed a "cutvertex" node) should fail or otherwise become unavailable. A biconnected network is one that includes at least one additional network link (sometimes ten ned an "edge") between nodes belonging to each of the otherwise potentially disconnected networks for the purpose of maintaining network communication therebetween if and when the cutvertex node fails or otherwise becomes unavailable. To achieve biconnectivity, the system may identify one or more nodes (110) to move and determine the direction and distance to move the one or more nodes (110). The system may then move the one or more nodes (110) in the determined direction and distance to transform the non-biconnected network (100) to a biconnected one.
before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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A. CLASSIFICATION OF SUBJECT MATTER
   IPC 7 H04L 12/66

B. FIELDS SEARCHED
   Minimum documentation searched (classification system followed by classification symbols)
   IPC 7 H04L

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

   Electronic database consulted during the international search (name of data base and, where practical, search terms used)
   EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X Further documents are listed in the continuation of box C.

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Date of the actual completion of the international search: 15 February 2005

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