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(54) **PROTECTION OF ROUTERS IN A TELECOMMUNICATIONS NETWORK**

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(57) **ABSTRACT**

A method of configuring a node in an IP network by creating a set of router table entries which form a set of virtually preconfigured cyclical routes, or p-cycles, within the IP network. This set of p-cycles is virtual in the sense that the only resources which they normally consume are routing table entries. No transmission capacity is required for them, unless/until they are used to carry packets (traffic.) These p-cycles sit idle and unused until a failure takes place. The routers surrounding the failure then use these p-cycles to route packets, which normally would be lost, around the failure. A router having an entry in its router table identifying the p-cycle, together with an associated port, is also disclosed, and also a data packet that may use a p-cycle to get to its destination.

13 Claims, 9 Drawing Sheets