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### Patent Search

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**Abstract:**

A NOVEL APPROACH TO DESIGNING ROUTING ALGORITHMS USING GRAPH THEORY A method for the development of the speed sensor is adapted to receive a packet speed of the IM connection and in response to the speed of the IM connection being above a threshold value, the speed sensor provides the packet to the optical path and in response to the relative speed being below the threshold value, the speed sensor provides the packet to the electrical path of the IM. It also benefits from a cache mechanism and detection of returning loops to provide effective forwarding while minimizing key consumption and achieving the desired utilization of network links. results are presented to demonstrate the validity and accuracy of the proposed solutions. Regular graphs are a type of graph that is highly structured and provides efficient network protection. This work introduces the concept of the volume cycle as a new design factor in program planning. The SOM is an unsupervised learning method with layers and has proven effective in several research areas, such as clustering. In the routing problem, we use the Clarke and Wright technique to determine routes. In this work, we propose an improvement of the capacitated self-organizing map (CSOM) to optimize the location of depots and the Or-Opt algorithm to ameliorate the routes by Clarke and Wright (CSOM&CW). FIG.1

**Complete Specification**

Description: A NOVEL APPROACH TO DESIGNING ROUTING ALGORITHMS USING GRAPH THEORY

Technical Field

[0001] The embodiments herein generally relate to a method for a novel approach to designing routing algorithms using graph theory.

Description of the Related Art

[0002] In order to exchange information, networks operate in accordance with a set of semantic and syntactic rules referred to as a protocol. One particular type of protocol is the Transmission Control Protocol/Internet Protocol (TCP/IP). When a network operates in accordance with the TCP/IP protocol it is typically referred to as a network. Significant progress in the development of quantum equipment has been reflected through a number of successful demonstrations of QKD networks but showing the clear suitability to assess how such networks compete with their classical counterparts under real-life conditions and in real-time traffic. A number of promising approaches using advanced technologies, with a significant potential for self-controlled complex systems, are currently developed in the scope of Industrial activities. Industry 4.0 is the focal part of the high-tech strategy of the German government and describes the technological evolution from embedded systems to Cyber Physical Systems (CPS). The LRP has become an active research area in the field of logistics optimization. Several extensions and different applications of LRP were developed, such as dynamic LRP and the LRP with time windows. This problem consists of finding the placement of a depot and routing between the customer and within allowable times, and LRP with pickup and delivery. Additionally, the implementation of a decentralized planning and control approach constitutes a convenient way to manage the complexity that arises in individualized industrial production.

[0003] When the networks correspond to IP networks, the router interconnects two computer networks that use a single network layer (layer 3) procedure but may use different protocols at the lower layers.

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