Research on the application of vehicle network in optimization of automobile supply chain

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Abstract: The four key areas of the development of Internet-connected (intelligent transportation) with great potential for development, environmental monitoring, goods tracking, and the development of smart grid are the core supporting technologies of many applications. In order to improve the adaptability of data distribution, so that it can be used in urban, rural or highway and other different car networking scenarios, the study test and hypothetical test of the technical means to accurately estimate the different car network scene parameters indicators, and then different scenarios take different distribution strategies. Taking into account the limited nature of the data distribution of the Internet network data, the paper uses the idea of a customer to optimize the simulation.

1 Introduction
In 2015, the State Council on the issuance of "China made 2025" notice, which was classified as one of the top ten "vigorously push the focus area breakthrough development". Then the Ministry of Industry released a article to promote energy and new energy Car development. The article talked about the four perspectives of the automotive industry, which is the automotive industry, the next decade development of the car manufacturers, the consumers driving the development of the car, we look at what the future development of the car.

In the "Made in China 2025" notice, energy conservation and new energy vehicles have been given full attention. It is worth noting that this includes not only the new energy vehicles, but also energy-efficient vehicle. In the technical details of the description, include the "electric vehicle, fuel cell vehicle development, master car low carbon, information technology, intelligent core technology, enhance the power battery, drive motor", and other energy-efficient vehicles include "efficient internal combustion engine, advanced transmission, lightweight materials, Control and other core technology of engineering and industrialization capabilities."

2 Supply chain visualization
Internet of Things is a huge network of information sensing devices, including radio frequency identification devices, infrared sensors, global positioning systems, laser scanners and network interconnection. Its purpose is to facilitate the identification and management. Through the device in the various types of objects on the electronic tags (RFID), sensors, two-dimensional code through the interface and wireless network connected to the object to give intelligence, can achieve human and object communication and dialogue, but also can achieve objects and objects communication and dialogue. Internet use, environmental protection, government work, public safety, safe home, intelligent fire, industrial monitoring, elderly care, personal health and other fields. In the concept of Internet of Things, RFID tags contain standardized and interoperable information, through the wireless data communication network to automatically collect them to the central information system, to achieve the identification of items, and then through the open Computing network to achieve
information exchange and sharing, to achieve the transparent management of goods, RFID has become the most critical technology applications.

It is particularly important to realize perception. Numerous sensors with communication and computing capabilities are connected wirelessly, interacting with each other, interacting with the physical world, and accomplishing specific application tasks, called the Sensor Network. It integrates the research results of sensor technology, embedded computing technology, distributed information processing technology and wireless communication technology. In the sensor network, a multi-hop self-organizing system is constructed through wireless communication. And deal with the network coverage area in the perception of information, flexible monitoring and processing of these information, while the detailed information transmitted to the user, Internet of Things to all items through the RFID and other devices connected with the Internet to achieve intelligent identification and management.

3 RFID applications to promote the development of car network
Auto Internet: through information sensor equipment, in accordance with the owner's idea, will be closely linked with their own cars, anytime, anywhere information exchange and communication, in order to achieve the car and its surrounding environment, intelligent identification, positioning, tracking, monitoring and Management of a network. In recent years, the rapid development of sensor network based on RFID tag technology has been developed rapidly. By means of information identification equipment such as radio frequency identification, infrared sensor, global positioning system and laser scanner, any item can be connected with the communication network, information exchange, to achieve intelligent identification, positioning, tracking, monitoring and management. This solves the problem of how the car joins the public network. Vehicle self-organizing network is the main component of vehicle wireless communication network, is a service in a variety of vehicles (vehicle terminal) and road traffic management information network. The research and development in this field has been widely concerned, and the research and application of car networking has gradually become a research hotspot. US and Japanese car network has developed into a more mature application, the Chinese car network has just started. The United States to promote the wisdom of the Earth, has developed into a $200 billion market, Japan's VICS system has been the formation of advertising, value-added business model. In all aspects yet to be perfect, but the future will maintain a high growth rate for a long time. Compared with the traditional wireless network, the vehicle network has its unique network characteristics [4]: high dynamic topology, intermittent network connection, the network link is highly unreliable, node movement has a certain regularity, Wireless signal transmission model has an impact, energy and space are not limited, the network size is relatively large, some applications on the packet submission delay and reliability is strictly limited, the global satellite positioning system GPS and other equipment support. Car network needs a new network architecture support, which is a major aspect of car networking research. At the same time, the key technologies of each layer under the new network architecture, including physical layer technology, media access control protocol, routing layer technology and security technology, constitute the main content of the second aspect of car networking. In addition, some common technologies closely related to the application are also an important part of the basic research of car network, including positioning system, coverage and connectivity.

Based on the technical means of measurement and hypothesis test, the parameters of different vehicle network are estimated, and the parameters of several parameters are analyzed, and the change types of several performance indicators in different application scenarios are analyzed and the description method is established. Describe the car network performance parameters, and adapt to different scenarios for different scenarios. In order to reduce the occupancy of the limited data distribution resources of the vehicle network environment, a new adaptive message loading mechanism is designed to reduce the need for the network bandwidth to occupy the necessary information for the vehicle nodes to obtain the data distribution. Based on the theoretical knowledge of the experimental data collection and the theoretical knowledge of the stochastic process, the statistical
characteristics of the nodes in the vehicle network are revealed. The distribution rules of the nodes in the network are analyzed, the motion of the nodes and the influence of the node motion on the distribution of nodes. Link stability, the relationship between the statistical characteristics of the above, the establishment of the statistical characteristics of qualitative or quantitative expression. This paper explores the new data distribution decision mechanism from the macroscopic level and the micro level according to the mainstream and effective methods used in the current vehicle network data distribution mechanism and algorithm.

4 Application of a Maker
The use of graphical operating system, 4-year-old children can also use 3d printer. Wearing a miniature electronic wrist device, your pulse, heart rate, blood pressure, blood sugar and other data will be uploaded to the mobile phone and cloud platform, It can predict Cardiovascular possible lesions, and early warning of health emergencies.

In the 2016 China International Electronic Information Starter Competition and cloud on Guizhou big data business model contest,from India, South Korea and more than 20 provinces in the 13,000 teams participating in the project type covers intelligent manufacturing , Large data services, large data finance government governance and other fields.

College entrance examination near, how can accurate registration volunteer, do not waste every 1 minute? "If you do not know their scores for the school which school, may wish to let big data to help you." "Tree elite data selection platform" project leader Yu Yueqing said.Yu Yueqing introduction, "tree elite" the use of massive data resources and years of scientific analysis of the results of conduct for the user to accurately find suitable and feasible educational opportunities.

Big data recorders not only tap the college entrance examination scores, but also "eyeing" people's clothes. When you see someone wearing a nice dress, just need to take pictures to upload, you can search for this piece of clothing related information. Won the cloud on Guizhou data contest first prize is Shenzhen Code Long Technology Co., Ltd. developed "artificial intelligence based on the visual decision engine" project.

5 Concluding remarks
Although the research has been carried out in the recent time, some basic data distribution mechanisms based on anchor routing, vehicle traffic, road topology and so on are proposed. Based on their implementation algorithm ,but there are some shortcomings and deficiencies, including the application of a single scene, the network load is high, poor scalability, assumptions can not be met in the project to achieve, so the current research is still in the early of the exploratory stage, to the final formation of mature application technology, may also need more innovative research, or a lot of detailed and perfect work. It is necessary and urgent to start some research topics such as data distribution mechanism and algorithm, such as data, in the context of increasing emphasis on car networking and its application in China.

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