【Abstract】

At present days, the rapid development of new information technique and application modes like cloud computing, Internet of Things and social media, is keeping pushing human society towards the age of Big Data. The analyzing computation mode of big data is mainly divided into batch computing, stream computing, interactive computing and graph computing. Among those, stream computing is being widely researched and applied in industry and academic fields. In the age of Big Data, real-time stream computing has been applied in great varieties; it can be seen in financial business real-time monitoring, e-commerce platform real-time recommendations, real-time website monitoring.

This paper puts forwards the real-time stream data computing model on the base of current using of application. Firstly, it describes the meaning and background for research work on real-time stream data computing model. Secondly, it analyzes the present situation about the domestic and foreign researches and applications of real-time data computing, Node-red and REDIS. Finally, it designs and redesigns the main frames and achieves data input node, data output node, data computing node for Node-red and visiting node to REDIS, and resign these nodes to Node-red to make it a complete real-time data stream computing model.

In the process of real-time dada computing, demands on maximum and minimum values, the cumulative sum and top（n） are often seen, for which the traditional way is recounting. This paper comes up with the method of REDIS based ordered set to remove recounting, by analyzing REDIS ordered set zset source code and combining with Skip list.

One important task after the finishing of designing real-time stream data computing model is to apply and testify; therefore this paper designs and achieves the web-site visiting monitoring system to apply and demonstrate the analyzing results on screens. This system includes three modes: users behavior analysis, web-site homepage monitoring and data visualizing. Among which, data visualizing is a web application used express frame of node.js, all the users need to do is to log in the IE to visit monitoring pages and visualize data by using Highcharts into charts and forms, so as to apply to the variety of demands of data.

This paper also provides testing results and function analysis, which all meets the request.

【**Conclusion**】The whole process from designing to the functioning of the model is covered in this paper, and the model has been testified and used in the product lines.

【Key words】stream data computing , Node-red, REDIS, data visualization, web-site visiting monitering