

Mathawan Jaiwai 2011: Forecasting Quality of Service of Web Service using the Box and Jenkins Method. Master of Science (Computer Science), Major Field: Computer Science, Department of Computer Science. Thesis Advisor: Miss Usa Sammapan, Ph.D. 154 pages.

This study presents the research on quality of service forecasting for web services using the Box and Jenkins method. The forecasting would benefit users who want to know quality of service of web services and build confidence when choosing web services based on the forecasting results, which would provide a guarantee that the chosen services have high quality of service at present and future time. As an experiment this research analyzed throughput and response time dataset and applied the Box and Jenkins method to do forecasting of web service. To evaluate the accuracy of the Box and Jenkins method mean absolute percentage error has been used. In addition, the experiment also compared Box and Jenkins method with single exponential smoothings and curve fitting by least square method. The experimental result showed that the Box and Jenkins method can accurately forecast quality of service of web services and yield lower values of mean absolute percentage error than the other two methods.

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