

Execution Time Optimization of Workflow Network with Activity Lead-Time

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Abstract : The executive time of the workflow network has an important effect on the efficiency of the business process. In this paper, the activity executive time is divided into the service time and the waiting time, then the lead time can be extracted from the waiting time. The executive time formulas of the three basic structures in the workflow network are deduced based on the activity lead time. Taken the process of e-commerce logistics as an example, insert appropriate lead time for key activities by using Petri net, and the executive time optimization model is built to minimize the waiting time with the time-cost constraints. Then the solution program-using VC++6.0 is compiled to get the optimal solution, which reduces the waiting time of key activities in the workflow, and verifies the role of lead time in the timeliness of e-commerce logistics.

Keywords : electronic business, execution time, lead time, optimization model, petri net, time workflow network

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