

# Machine Learning-Based Adaptive Load Balancing Framework for Distributed Object Computing

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**Abstract.** Distributed object computing is widely envisioned to be the desired distributed software development paradigm due to the higher modularity and the capability of handling machine and operating system heterogeneity. In this paper, we address the issue of judicious load balancing in distributed object computing systems. In order to decrease response time and to utilize services effectively, we have proposed and implemented a new technique based on machine learning for adaptive and flexible load balancing mechanism within the framework of distributed middleware. We have chosen Jini 2.0 to build our experimental middleware platform, on which our proposed approach as well as other related techniques are implemented and compared. Extensive experiments are conducted to investigate the effectiveness of the proposed technique, which is found to be consistently better in comparison with existing techniques.