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Development of performance evaluation system for network systems by client observation

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KEYWORDS

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ABSTRACT

As Internet technology comes into increasingly wide-spread use, there is a need for quality control of network service performance to ensure user convenience, such as server access time and response time. Conventional performance evaluations aim at the control of devices at the network layer, but do not consider quality at the application layer. In this paper, the authors propose a method of performance evaluation in end-point applications to evaluate the quality of service from the viewpoint of user convenience. This method makes possible performance measurement by introducing an observation layer that monitors the behavior of client applications, and by focusing on the request-response communications between the client and server. A performance evaluation system that uses the principle of the observation layer has been implemented, and it is shown that the performance of an actual running system can be accurately measured, confirming the effectiveness of the performance evaluation system.