End-to-end quality of service specification and mapping: The third party approach

Mirjana D. Stojanovic, Slavica V. Bostjancic Rakas, Vladanka S. Acimovic-Raspopovic

References:

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Abstract:

This article addresses an open issue of end-to-end service specification and mapping in next generation networks. A centralized approach has been considered, via the third party agent that manages negotiation process in a group of domains. We suggest a general structure of the service specification form, which contains technical parameters related with a particular service request. Relying on such general form, we further propose and evaluate an efficient algorithm for service class selection. The algorithm selects the most appropriate class for each domain by determining the closest conformance between the required and offered service level. We also present a numerical example that demonstrates operating of the algorithm. Performance evaluation has been performed on the prototype implementation. Results of the analysis have pointed out the following important advantages of our approach: fairness in resource consumption, flexibility in class selection according to specific management policy and adaptability to different quality of service models.

Keywords:

Next generation network, Service class selection, Service level agreement, Service negotiation, Quality of service