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An End-to-End QoS Adaptation Architecture for the Integrated IntServ and DiffServ Networks

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Abstract

In this paper, we propose an end-to-end quality of service (QoS) adaptation network architecture to guarantee service qualities for mobile users, according to user requirements and available network resources on the end-to-end path which is across the wired backbone DiffServ network and wireless IntServ networks. Further, we adopt the bandwidth broker (BB) for resource allocations and COPS-SLS protocol for negotiating QoS in DiffServ backbone, and the context transfer protocol (CTP) on IntServ wireless networks to resolve service interruptions during handoffs. Finally, we propose a flexible and efficient bandwidth adjustment algorithm, which is based on CBQ and RED schemes, to adaptively reallocate available bandwidth among different traffic classes on border gateway routers between DiffServ and IntServ networks.