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Design and Implementation of the Quality-of-Service in IPv6 using the modified Hop-by-Hop Extension header - A Transitional Mechanism

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Abstract

This paper proposes a temporary solution to the QoS implementation in IPv6, the design of which uses the Hop-by-Hop Extension header and not the 20-bit flow label field in the IPv6 main header. This paper deals extensively with Integrated Services type of QoS model (like the one supported by RSVP) and gives the definition of the important TLV options that will be needed to specify the Type of QoS and the corresponding resource requirements in the Hop-by-Hop Extension Header. This design can also support the Differentiated Services type of QoS model, which is dealt in a brief manner. The paper also elaborates on the data structures that will be required at the routers and finally gives the algorithm that the source and the router should follow while trying to implement this design.