
A Secure QoS Multicast Routing Protocol

Yang Mingxi, Li Layuan
School of Computer Science, Wuhan University of Technology
Wuhan, Hubei, 430070 China
E-mail: yangmx@mail.whut.edu.cn

ABSTRACT

The paper presents a simple and secure QoS (Quality of Service) multicast routing protocol. The protocol can operate in an open and insecure network environment and on top of the unicast routing protocol. The secure QoS multicast protocol is designed for the following goals: (1) Add security as QoS multicast routing metrics. (2) The key distribution protocol is both secure and robust in any open network environment. (3) It can support group membership authentication. (4) It can construct multicast trees with security and QoS constraints. (5) It provides confidentiality and authentication for multicast data transmission. This protocol make multicast receiver be able to choose between various service classes, each with different level of confidentiality and authenticity in a QoS aware multicast communication system.

Keywords: security, QoS, multicast, routing, protocol