



一种基于QoS的QoE到SLA映射方法

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A Method of QoE mapped to SLA Based on QoS

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摘要 该文提出一种算法IQoE2QoS(Improved QoE to QoS), 采用模糊理论的方法计算QoE到QoS的映射。该算法有3重目标: 从大量的经验数据中通过计算互信息量方式总结被统计指标之间的关联程度。在大量经验数据的基础上通过多指标模糊判定理论将用户感知映射到应用层用户QoS参数。考虑了用户的QoE和QoS的双向映射, 并且阐述了得到的QoE如何自然映射到SLA(Service Level Agreement)。通过仿真表明, IQoE2QoS算法对用户体验的分类准确度是线性回归算法的2到3倍。

关键词: 网络管理 用户感知 服务质量 机器学习 模糊理论 业务等级协商

Abstract: In this paper an algorithm called IQoE2QoS(Improved QoE to QoS) is presented. This algorithm focus on QoE how to map to QoS based on fuzzy theory. IQoE2QoS presented has three targets: it can give the association degree among indications through calculating the entropy in large data sets. Its purpose is to translate user perception acquired from large experience datasets into pieces of metrics which can be used in lower level QoS. In this paper, a proposition not only illustrating the mapping between QoE and QoS but also the mapping between QoE and SLA is proposed. Emulation shows that IQoE2QoS can improve classification accuracy two to three times than line regression algorithm.

Keywords: Network management Quality of Experience(QoE) Quality of Service(QoS) Machine learning Fuzzy theory Service level agreement

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