

一种基于多QoS注册中心和模型异构的WEB服务选择算法

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A Web Service Selection Algorithm Based on Multiple QoS Registration Centers and Heterogeneous QoS Model

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摘要

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摘要 多QoS注册中心并且QoS模型异构给服务选择带来巨大困难。借鉴多属性群决策(MAGDM)理论的基本思想,该文提出一种解决上述难题的多注册中心和模型异构的Web服务选择算法(MRHO_WSSA)。MRHO_WSSA算法能综合评估各QoS注册中心的QoS信息,从而获得QoS综合最优的服务组合计划。MRHO_WSSA算法包括5个步骤:用户偏好规格化、群偏好确定、加权规格化决策矩阵、确定群理想方案、计算群贴近度。最后通过实验验证算法的优势和有效性。

关键词: Web服务 服务选择 多属性群决策(MAGDM)理论 服务质量 QoS注册中心

Abstract: Web service selection based on QoS is still challenging because the multiple QoS registration centers and heterogeneous QoS models make decision-making hard. Based on Multi-Attribute Group Decision-Making (MAGDM) theory, this paper presents a novel Multiple Registration centers and Heterogeneous QoS model's Web Service Selection Algorithm (MRHO_WSSA) to solve the above difficulties for the first time. Through evaluating the QoS information of all QoS registration centers, MRHO_WSSA can obtain the synthetically optimal composition plan. It includes five main steps: normalizing the user's QoS preference, calculating the group preference, weighting normalized decision-matrix, determining group ideal solution and calculating the relative closeness to the group ideal solution. And a set of experiments demonstrate the benefits and effectiveness of the approach.

Keywords: Web service Service selection Multi-Attribute Group Decision Making (MAGDM) theory Quality of Service (QoS) QoS registration centers

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