

论文

## 基于Web Services服务管理协议的设计与分析

任兴田, 黄小红, 苏玉洁, 马 严

北京邮电大学计算机科学与技术学院 北京 100876

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摘要

该文提出基于Web Services的服务管理协议(WSSMP), 用于有效地管理跨不同管理域的服务。利用Petri网对WSSMP进行了形式化描述, 并利用Petri网的可达性分析对此协议进行了逻辑正确性验证, 确保了此协议具有有界性、活性、完整性、前进性等性质, 从而减少了协议设计中潜在的错误。并在仿真平台上进行了协议测试, 测试表明读取大量对象时, 随着读取对象数的增多, 压缩WSSMP所使用的带宽增加很少, 该协议适应服务管理需要大量处理数据的特性。

关键词 [互联网服务管理](#) [Web Services](#) [UML \(Unified Modeling Language\)](#) [Petri网](#)

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## Design and Analysis of Web Services-Based Service Management Protocol

Ren Xing-tian, Huang Xiao-hong, Su Yu-jie, Ma Yan

School of Computer Science and Technology, Beijing University of Posts and Telecommunications, Beijing 100876, China

Abstract

Web Services-based Services Management Protocol(WSSMP) is proposed, through which, services across different management domains can be efficiently managed. With Petri net, a formalized description of the protocol model is given. Moreover, the logical correctness of the protocol is verified through the analyses of the reachability of Petri net, thus making sure the boundedness, liveness, completeness and advancement of the protocol. Thereby, the potential mistakes in protocol design are reduced. Emulation of the protocol is given. The results show that, when a large number of objects are retrieved, the bandwidth consumption of compressed WSSMP increases slowly as the number of retrieved objects increases. Accordingly, the protocol is adapted to large bandwidth requirement of service management.

Key words [Internet service management](#) [Web services](#) [UML \(Unified Modeling Language\)](#) [Petri net](#)

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通讯作者

作者个人主页 任兴田; 黄小红; 苏玉洁; 马 严

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