

研发、设计、测试

基于角色划分的构件组合兼容性检查

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摘要 基于构件的软件开发是软件工程化和工业化发展的必然趋势, 构件间通过接口实现交互。目前主要的接口定义语言是为了满足封闭的C/S应用而设计的, 仅描述了构件交互的静态语法层信息, 这些信息已不能满足开放环境下对构件理解、使用和推导需要。形式化方法因其描述的准确性和使用自动定理证明机制而受到越来越多的重视, 以CORBA构件为例, 结合一个电子商务应用实例, 给出基于 π 演算的构件接口动态行为信息描述方法, 在此基础上根据构件在交互中的作用进行了角色划分, 并基于角色模型研究了构件组合中的兼容性问题, 从而保证了开放环境下构件间成功地进行互操作。

关键词 [构件](#) [接口](#) [协议](#) [角色](#) [兼容性](#)

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Components composition compatibility checking based on roles division

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Abstract

Component-based software development is necessity current of software engineering and industrialization and components achieve interaction by interfaces. At present the main interface definition languages are designed initially for closure environment to satisfy the requirement of C/S application, and only describe static syntax level information of component interaction which can not meet the need of understand, usage and deduce of component in open environment. Formal description methods are being got more and more attention because of their accuracy and the use of automated theorem proving mechanism. This paper proposes the extension approach to component interfaces including dynamic behavior information based on π calculus, then divides roles according to the role component acts in the system and researches the compatibility of component composition based on roles division to ensure the correctness of composition and interaction in open environment. To illustrate what the paper presents, an electronic commerce application system is used as an example.

Key words [component](#) [interface](#) [protocol](#) [role](#) [compatibility](#)

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