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# 一种基于角色的分布式动态服务组合方法

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Abstract
Web service composition is an important technology for agile inter-enterprise application integration. Centric composition engines are widely adopted to enact composite services in many Web service composition research projects. Such a centralized architecture, however, results in problem of scalability, message exchange efficiency and autonomy. A role-based decentralized approach for service composition is proposed in this paper, which partitions the global process model of a composite service into local process models according to the participant roles so as to distribute the control logic of a composite service and corresponding execution load into multiple nodes. An algorithm of generating the local process models is presented in detail with deployment and execution mechanism introduced. Simulation results indicate that this approach can support highly concurrent requests and large volume of data more effectively than the centralized architecture, so it is helpful to improve the scalability of composite services.

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摘要
服务组合是开放环境中实现跨组织敏捷应用集成的重要技术.许多研究采用集中的服务组合引擎管理组合服务的执行,在系统的可伸缩性、消息传输效率及自治性等方面存在局限.针对集中结构的上述问题,提出一种基于角色的分布式动态服务组合方法,通过划分组合服务的全局流程模型产生各个角色的本地流程模型,从而使得组合服务的控制逻辑及执行负载能够对等地分布到多个结点.讨论了本地流程模型的生成算法及部署与执行机制.模拟实验结果表明,与集中式结构相比,该方法能够更有效地支持大规模并发访问以及大数据量的消息转输,有助于提高组合服务的可伸缩性.

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