# ABC:基于体系结构、面向构件的软件开发方法

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## Abstract

The component-based software reuse and development is considered as an effective and efficient approach to improve the productivity and quality of software development, and is applied widely in building distributed systems. But, current software component technologies are concentrating mostly on component implementation models and runtime interoperability, lacking systematic approach to guide the whole development process. Recently, the research on software architecture (SA) has made significant progress, which takes components as fundamental units and provides a top-down approach to component-oriented development by describing the gross structure and features of software systems. In this paper, an SA-based component-oriented development approach is proposed, trying to offer an effective systematic solution for component-based reuse. This approach introduces the software architecture into each phase of software lifecycle, takes SA as the blueprint of system development, shortens the gap between high-level design and implementation by toolkit support, and realizes the automated system composition on runtime component underpinning platforms.

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## 摘要

基于构件的软件复用和开发被认为是提高软件开发效率和质量的有效途径,并在分布式系统中得到了广泛的应用.但是,目前的软件构件技术主要还是着眼于构件实现模型和运行时互操作,缺乏一套系统的方法以指导整个开发过程.近年来,以构件为基本单元的软件体系结构研究取得了较大的发展.它通过对软件系统整体结构和特性的描述,为面向构件的软件开发提供了一个自顶向下的途径.介绍了一种以软件体系结构为指导,面向构件的软件开发方法,试图为基于构件的软件复用提供一种有效的解决方案.这种方法主要是将软件体系结构引入到软件开发的各个阶段,

作为系统开发的蓝图,利用工具支持的自动转换机制缩小从高层设计到实现的距离,而后在构件平台的运行支持下实现自动的系统组装生成.

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