

一种度量软件体系结构复杂性的方法

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摘要: 论文首先介绍了复杂网络及有向加权网络方法, 并给出了 SA 的形式化描述. 其次, 提出了一种通过 SA 边权、构件的入强度、构件的出强度、构件的总强度、SA 凝聚度等度量属性进行 SA 复杂性的度量方法. 最后, 根据给出的度量 SA 复杂性的方法进行了实例验证. 结果表明, 该方法在严格的形式化基础上, 可以较好地对软件系统的 SA 复杂性进行度量, 为系统后续开发及维护等工作提供参考和支持.

关键词: 度量; 软件体系结构; 复杂性; 凝聚度

A Metrics Method of Complexity for Software Architecture

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Abstract: This paper first introduces the complex network and the directed-weighted network method, and gives the formal description of the SA. Second, a metric method of SA complexity is proposed through SA edge weight, in-degree strength of component, out-degree strength of component, overall-degree strength of component and agglomeration of SA. Finally, an example is verified by the method given to metric the complexity of SA. The results shows that this method can metric the complexity of software system well based on strict formalization, and provides reference and support for subsequent development and maintenance of SA.

Key words: metrics; software architecture; complexity; agglomeration

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