Principles for Designing Software Architecture to Achieve Quality Attribute Requirements

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Abstract

I will describe the principles involved in the design of software architecture. The premise is that the design of software architecture is determined by the quality attributes requirements for a system. The quality attributes that we have focused on are: availability, modifiability, performance, security, and usability.

I will discuss why quality attributes are important, how to specify quality attribute requirements in a common form, design primitives to support the achievement of each quality attribute and how these can be applied to the design and evaluation of software architectures.

Bio: Dr. Len Bass has written two award winning books in software architecture as well as several other books and numerous papers in a wide variety of areas of computer science and software engineering. He has been a keynote speaker or a distinguished lecturer on six continents. He is currently working on techniques for the methodical design of software architectures, to understand how to support usability through software architecture, and to understand the relationship between software architecture and global software development practices. He has been involved in the development of numerous different production or research software systems ranging from operating systems to database management systems to automotive systems.