

QoS (Quality-of-Service) driven Component Design

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Component based design helps reduce software complexity and development costs. It helps assemble system rapidly to help achieve OPP goal of reducing development cycle from 24 months to 24 days. QoS-driven component modeling and design process is explored using Top-Down (UML Modeling), Bottom-Up (Communication and Computation Cost analysis) and Middle-Out (Concurrency Cost analysis) approaches. Performance annotation is performed using computation, communication and concurrency cost analysis. Components are identified from user level requirements. Multiple versions of a component can be developed which meet different QoS requirements. Component integration testing is performed at modeling stage.