

Keynote Address

Architectural Patterns for Complex Real-Time Systems

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The term "software architecture" refers to the highest form of organization of the software in a running system. This encompasses both structure, the identification of the principal components and relationships, and behavior, the rules that define how components respond and how they interwork. Architecture fundamentally determines the capacity of a system to sustain evolutionary development -- well-architected software systems are capable of easily accommodating new requirements, reducing development costs, and minimizing risk. In this talk we describe several important object-oriented design patterns for architecting complex real-time software systems. We also explain how to specify these patterns using the new industry-standard Unified Modeling Language (UML) -- demonstrating its use as a formal architectural definition language.

Brian Selic is the Vice President of Advanced Technology at ObjecTime Limited. He has over 25 years of experience with industrial real-time systems in telecommunications, aerospace, and robotics. He is a recognized authority on the use of the object paradigm in real-time applications and was one of the members of the core team responsible for defining the Unified Modeling Language (UML) standard. Most recently, he has been working on adapting this standard to the real-time domain.

