

The essence of component-based software engineering is embodied in component models. Component models specify the properties of components and the mechanisms of component interactions. In the last decade a large number of different component models have been developed, with different aims and using different principles and technologies. This has resulted in a number of models which have many similarities, but also principal differences, and in many cases unclear concepts. Component-based development has not succeeded in providing standard principles, as has, for example, object-oriented development. In order to increase the understanding of the concepts, and to differentiate component models more easily, this presentation discusses fundamental principles of component models, and defines a Component Model Classification Framework which includes these principles. Further, the principles of several component models are presented using this framework.