

**SAS SIMULATION STUDIO: KEY ELEMENTS, NEW FEATURE,
AND PRACTICAL APPLICATIONS**

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ABSTRACT

We present an overview of SAS Simulation Studio, an object-oriented, Java-based application for building and analyzing discrete event simulation models. We emphasize SAS Simulation Studio's hierarchical, entity-based approach to resource modeling, which facilitates the creation of realistic simulation models for systems with complicated resource requirements, including simultaneous occupation of multiple resources, variations in resource availability levels and operational status, and precisely targeted preemption. We also discuss the various ways in which SAS Simulation Studio integrates with SAS and JMP for data management, distribution fitting, and experimental design. We explore a variety of simulation models, highlighting the unique capabilities and newer features of SAS Simulation Studio. A number of these models are drawn from our productive work with customers in a wide range of industries, including manufacturing, pharmaceutical development, government agencies, finance, electronics, and health care.