RELIABILITY BLOCK DIAGRAMMING
WITH EXTENDSIM

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ABSTRACT

A Reliability Block Diagram (RBD) graphically represents how the availability of individual components affects the overall success or failure of a complex system. The reliability diagram is a network of blocks connected in series or in parallel, with each block representing an individual component's expected availability for work over time. Consequently, system success is determined both by component availability and the level of path redundancy through the network. The integration of RBD with the ExtendSim discrete event architecture means that analysts can now capture the factors affecting component availability in as much detail as needed. Component usage over time, the repair process, and off-shifting are just some of the factors that can be explored to more accurately determine the impact of down events on throughput, inventory, and utilization. The new Reliability module is also tightly integrated with the ExtendSim internal relational database, allowing for rapid construction and fast execution of large-scale networks.

AUTHOR BIOGRAPHY

ANTHONY NASTASI is a Simulation Architect at Imagine That Inc. He received a B.S. in Economics and an M.S. in Regulatory Economics from the University of Wyoming. Mr. Nastasi performed supply chain modeling and analysis at Los Alamos National Laboratory and develops modeling components and strategies at Imagine That Inc. His email address is AnthonyN@ExtendSim.com.