

This report discusses a simulation study designed to investigate robustness for a particular computer system network model briefly described as a three-stage closed queuing network. The study conducted included experiments which provided for selectable proportions of various distributions, as well as various queuing disciplines. The study extensively employed the use of antithetic variates.

A MODEL FOR SIMULATING AND EVALUATING  
THE RESPONSE OF A MANAGEMENT INFORMATION SYSTEM

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This paper discusses the development of a model to simulate the information flow of a program management organization. The objective of the study was to evaluate the response of the information system when changes to the system were made.

The model is written in GPSS II for use on the UNIVAC 1100. It contains a different generate block for each type message entering the information system. As each message is created, it is assigned a destination, delivery duration, type of processing, and a processing duration. Assignments are made from a distribution describing that activity. Outgoing messages are created by the incoming messages and are assigned destinations and durations from corresponding distributions.

In developing the model, an information decision scheme was used. Each message is represented by a transaction and each decision maker is represented as a facility. The flow of messages through the system activate the nodes and create the output statistics.