Abstract

The main emphasis of this paper is on the evaluation of some important reliability measures of a computer system considering the concepts of redundancy, priority in repair disciplines and arrival time of the server. Two identical units of a computer system are taken up—one unit is initially operative and the other is kept as spare in cold standby. There is a direct independent failure of h/w and s/w from normal mode. The system is repaired at its h/w failure while s/w is up-graded as per requirements. Priority is given to the h/w repair over the s/w up-gradation. Failure time of the system is exponentially distributed while the distributions of h/w repair time, s/w up-gradation time and arrival time of the server are assumed as arbitrary. The system has been analysed stochastically in detail using semi-Markov process and regenerative point technique. The graphical study of the results has also been made.

References


Index Terms

Computer Science  Applied Sciences

Keywords

Computer System  H/w Repair  S/w Up-gradation  Arrival Time  Priority and Reliability Measures