Abstract

For critical business applications continuous availability is a requirement. Software reliability is an important component of continuous application availability. A single software defect can cause a system failure. To avoid these failures, reliable software is required. Due to schedule pressure, resource limitations, and unrealistic requirements in software development process, developing reliable software is difficult. To monitor software process variations and to improve reliability, the statistical Process Control (SPC) can be applied to software development.
process. SPC is a methodology that aims to provide process control in statistical terms. Control charts are the most common tools for determining whether a software process is under statistically control or not. In this paper we proposed a control mechanism, based on time between failures observations using exponential distribution, which is based on Non Homogeneous Poisson Process (NHPP).

Reference


Index Terms

Computer Science
Reliability Engineering

Key words

Software reliability
Statistical Process Control (SPC)

NHPP

MLE

Probability limits
Exponential Distribution