网络、通信、安全

基于FTA和比较模型的网络故障诊断算法

朱云鹏，陈 卓

合肥电子工程学院 网络工程系，合肥 230037

摘要　　针对网络故障特点，将MM*模型和FTA方法引入网络故障诊断建模中，设计了一种用FTA方法进行网络故障的系统分析与诊断，并定量求解出所有故障可能的最小割集，然后用MM*模型从最小割集中选取测试点对进行单点故障检测与定位的网络故障诊断算法。实验结果表明，该算法有效提高了网络故障诊断的效率和准确率，具有较好的实用性。

关键词　　网络故障　故障诊断　故障树分析法　最小割集　比较模型（MM*模型）

分类号　TP393.02

Network fault diagnosis algorithm based on FTA and comparison model

ZHU Yun-peng，CHEN Zhuo

Network Engineering Department，Electronic Engineering Institute，Hefei 230037，China

Abstract

Aiming at the characteristic of network fault，MM* model and Fault Tree Analysis（FTA） are introduced into network fault diagnosis modeling.An algorithm is proposed which analyzes and diagnoses network fault，extracts the minimum cut sets quantificationally with Fault Tree Analysis，then detects and orients network fault with MM* model by testing the geminate nodes selected from minimum cut sets.The experimental results show that the method enhances efficiency and veracity of network fault diagnosis efficaciously.

Key words　network fault　fault diagnosis　Fault Tree Analysis（FTA）　the minimum cut sets　comparison model（MM* model）

通讯作者　朱云鹏 qianlima714@tom.com