NETWORK MAPPING DESIGN OF NETWORK MONITORING SYSTEM

Abstract

Rapid growing network requires the existence of a management. Fault Configuration Accounting Performance Security (FCAPS) is a model for network management. Network Management System (NMS) is an implementation of the model FCAPS which uses the standard protocol, Simple Network Management Protocol (SNMP). Management for network mapping is required to determine the exact condition of the network and also determine network availability.

This thesis designs a system where the network mapping in NMS serves as the Performance Management. The system network mapping is an automatic system using SNMP and web architecture. The process of network mapping will automatically detect the network device. This process will result the information in JavaScript Object Notation (JSON) form so visualization maps can be formed. Results from availability of a device also can be known.

The evaluation test of made into 3 parts, precision map formation, formation time maps, and network availability. The evaluation test requires different topologies for testing scenarios, topology I, II, and III. Testing of each scenario is performed by a network map and The Dude application. Result of maps that is created by network map application has the same with topology scenarios. Result of testing compared to The Dude application has the same accuracy of the maps formation. Designed system can also set the managed device and has Web architecture. In addition the system also displays availability on every device in the network.

Results of comparison testing, conducted by The Dude applications with the designed system, the designed system has an advantage in time. Designed system can also set the device which has to be managed and has web architecture. In addition the system also displays availability on every device in the network.

Keywords: Arbor, Availability, FCAPS, MIB, Network Map, NMS, SNMP