Mobile Agent for Monitoring Computer Networks

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Abstract - Network monitoring and maintenance have become crucial when a network comprises of several subnets with heterogeneous hardware and software environments. This paper presents the designing and development of a Mobile Agent based as a solution for monitoring the campus wide local area network in the Sabaragamuwa University of Sri Lanka. The System comprises of three Agents; Host Agent - located in a host, Mobile Agent - movable on the network, and an Agent running on a Mobile phone. The Mobile Agent consists of a stationary unit and a mobile unit. The stationary unit deals with scheduling and controlling while the movable unit travels to locations with faults and does repairing. The mobile agent has also been provided with basic toolkits such as newly updated virus guard, commonly used software, patches, etc. The Agent running on the mobile phone is responsible for sending messages to the administrator to attend to some critical faults. The system has been developed on JADE. JADE-LEAP implements the Agent on the mobile phone with limited resources. The system has been tested on several subnets to investigate the performance and accuracy in real cases.

Keywords: Mobile Agent, Computer Networks, Network Monitoring.