ABSTRACT

The development of information technology has increased the complexity of IT infrastructure, making automation solutions key to operational efficiency. IT Service Management (ITSM) plays an important role in aligning IT with business needs and Network Monitoring System (NMS) in proactively unifying networks. Therefore, this study aims to provide in-depth insight into how the implementation and profiling of open-source software for automation processes and improve efficiency in managing IT services and network infrastructure. The method used in this study uses the Network Development Life Cycle (NDLC) by conducting analysis, design, and simulation stages on three main tests, namely Nagios as an NMS platform, iTop as an ITSM platform, and automation testing on both platforms. The results of the study showed that five tests on Nagios related to the monitoring process and also two tests on iTop related to the ticket creation process received a successful status. The results are used as a scenario for the classification of Nagios notifications in Problem and Incident Management on iTop. Furthermore, the test results in the automation scenario showed one test that had an unsuccessful status, namely in the automatic ticket creation automation process initiated by createTicket-nagios.php. The analysis results show that the event handler on the create-iTop-ticket command created for automation needs is readable, but the createTicket-nagios.php script still cannot convert Nagios notifications into a ticket on iTop so that one of the causes of failure is in the way the script communicates with me above. This finding is a reference for creating a recommended solution to test connectivity between the Nagios script and the iTop API by creating a script based on the createTicket-nagios.php script by designing a flowchart, DFD, and Class Diagram for the script.

*Keywords - **automation, NMS, ITSM, monitoring, ticketing, NDLC***