ABSTRACT

In the world of networking, the complexity of integrating devices from different vendors is a challenge for companies or internet service providers (ISPs). The diversity of network device vendors is due to the advantages that each vendor has in certain sectors. However, the integration of devices from different vendors can cause problems in implementing network automation, especially in terms of SNMP (Simple Network Management Protocol) integration into a multi-vendor network automation program.

In previous research, Python has been successfully implemented as an effective programming language for network automation, with the support of several libraries such as Paramiko and Netmiko for configuring multivendor network devices via SSH (Secure Shell) protocol. SSH protocol is proven to be effective in simplifying the configuration process and configuring network devices in bulk. Therefore, in this research, the author uses the SSH protocol as the basis in developing an automation system for configuring and monitoring Multivendor Network Devices. In addition, the SNMP protocol is also used as a tool to create more sophisticated automation tools.

From the results of this research, it is found that to configure devices from different vendors at one time only takes a short time. In the configure feature, the average time is 5.0233 seconds, in the verify config feature, the average time is 6.115 seconds, and in the automation tamplate feature, the average time is 3.71 seconds. On the monitoring side, the average time obtained to send a ping to the device is 4,835 seconds and the average time obtained to determine the condition of the device is 37.59 seconds.

Keywords: Network Automation, Multivendor Networking, konfigurasi Automation, Monitoring Automation