

ABSTRACT

Manually configuring a network device especially on a large-scale network can take a relatively long time, whether it's doing the troubleshooting process and building the network from scratch. Besides requiring a relatively long time, the cost of building such a network is also great. Network automation is one of technique that can handle it. With network automation, network device configurations such as configuration Protocol routing can be done automatically. Configuration can be completed quickly and can certainly minimize the cost incurred. Network automation needs to use programs with certain programming languages, one of which is python. The Python programming language has various types of libraries that support network automation. In this research use Paramiko and Netmiko. Paramiko is a Python library that can be used as an SSH client to control network devices. Netmiko is a simplification of paramiko that can be used in some vendors or called multi-vendors. In this study, the performance of Paramiko and Netmiko in automation of OSPF routing configuration will be compared, the goal of being able to know the performance of both in terms of the time generated by the program in providing OSPF configuration commands to each Router and the time of OSPF network convergence after the configuration command is given. In addition, this research will compare the use of SSH and Telnet protocols. The SSH protocol has a better level of security than Telnet, so both will be compared with the same testing parameters as Paramiko and Netmiko. This research successfully implements OSPF network automation using Paramiko and Netmiko libraries. The OSPF configuration process time uses Paramiko faster with a difference of 50.155 seconds from Netmiko. Time of convergence after administration with Paramiko faster with a difference of 50.17 seconds from Netmiko. The throughput value generated by using Paramiko is 30,27% larger than Netmiko, while the delay in Netmiko is 30,21% greater than Paramiko.

Keyword: Paramiko, Netmiko, OSPF, SSH, Telnet