

ABSTRACT

INTERNET NETWORK DEVELOPMENT IMPLEMENTATION PT. INKA MULTI SOLUTION SERVICE BASED ON MIKROTIK ROUTER

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PT. INKA Multi Solusi Service is a service-based company in the field of railways, transportation, and infrastructure. The office of PT. INKA Multi Solusi Service, located in Madiun City, has employees working with individual computers. The company subscribes to an internet connection of 150 Mbps. However, the internet network at PT. INKA Multi Solusi Service faces suboptimal performance issues. Some of the issues include security concerns, as the internet login still relies on a single password for all users. Bandwidth conflicts and unrestricted website access contribute to potential network virus sources. The objective of this research is to implement the development of an internet network system based on MikroTik routers to address the shortcomings in the PT. INKA Multi Solusi Service internet network. To enhance network security, measures such as captive portal, bandwidth management using the hierarchical token bucket method, and firewall filters are employed. This protection and balancing approach is commonly referred to as Firewall Filter and Bandwidth Management. The results of this research include the development of a captive portal and user management system. This system ensures that users cannot misuse the internet network, and those seeking access must obtain permission from relevant authorities at PT. INKA Multi Solusi Service. Blocking specific websites adds an extra layer of security, allowing internet users at PT. INKA Multi Solusi Service to work without disruptions, contributing to a secure working environment and minimizing the risk of network viruses.

Keywords: PT. INKA Multi Solusi Service, Network, *Virus*, *Bandwidth*.