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Optimizing Network Uptime Through Dual ISP Failover Implementation Using Netwatch

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ABSTRACT
Stable internet connectivity is a crucial aspect in supporting company operations, especially for businesses that rely on Point of Sale (POS) systems such as PT. XYZ. A common issue encountered is the loss of internet connection due to disruptions from the primary Internet Service Provider (ISP), which results in the POS system becoming inoperable and transactional activities being disrupted. To address this problem, this study proposes and implements a failover solution using two ISP connections with the help of MikroTik devices and the Netwatch feature. The methodology employed follows the Network Development Life Cycle (NDLC) approach, consisting of six phases: analysis, design, simulation, implementation, monitoring, and management. The analysis phase is conducted to identify network needs and issues. In the design phase, a dual ISP topology is created along with NAT configuration, static routing, and Netwatch as the connection detection system. The implementation phase involves setting the primary and backup routes using distance parameters and automated Netwatch scripts to switch connections during disruptions. Testing results show that failover occurs automatically in under five seconds without significantly affecting the internet connection. The results demonstrate that the dual ISP system with failover configuration effectively minimizes downtime and enhances overall network availability. This solution is also flexible and can be adapted for other branches with cost efficiency and good scalability.

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