

Security Enhancement in Server Clustering Systems

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Abstract: *Server clustering plays a vital role in improving availability, scalability, and performance of enterprise systems. However, as clusters involve multiple interconnected nodes sharing resources and data, they become more vulnerable to various cyber threats such as unauthorized access, denial-of-service attacks, and data breaches. This paper focuses on enhancing the security of server clustering systems through multi-layered protection mechanisms including encryption, intrusion detection, node authentication, and AI-driven anomaly monitoring. The proposed model ensures secure inter-node communication, fault isolation, and real-time threat response without compromising system efficiency. By integrating security as a core element in cluster management, this approach contributes to the development of resilient and trustworthy distributed computing environments.*

Keywords: Server clustering

