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Cross-Platform Compatibility in Enterprise Database Migrations: A Universal Framework

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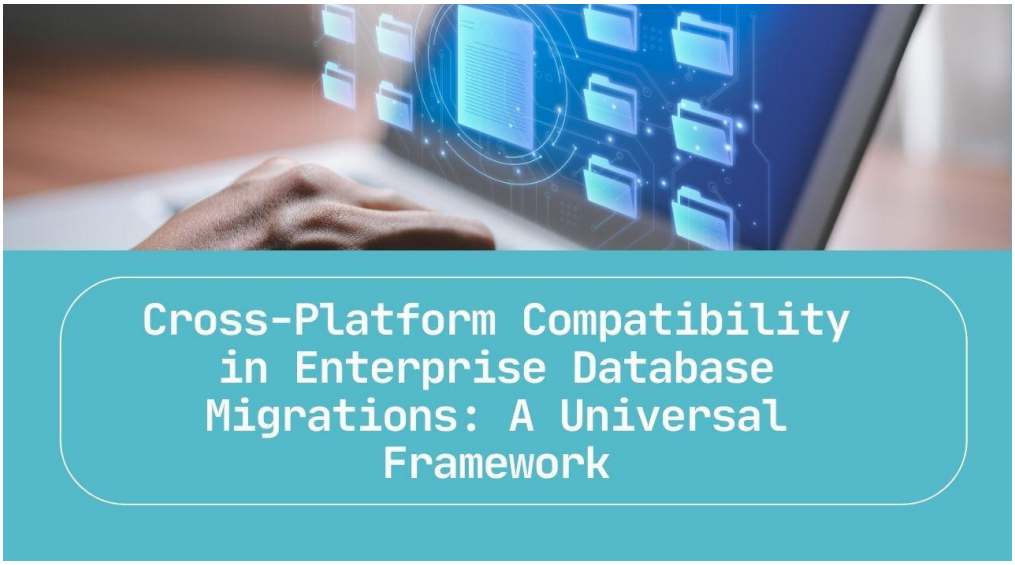

Abstract: *Database migrations across platforms present significant challenges, particularly when integrating heterogeneous systems and legacy infrastructure with modern cloud-native environments. This work introduces a universal framework designed to address these complexities by leveraging innovative middleware, dynamic validation, and post-migration diagnostic tools. These features harmonize legacy systems with modern platforms, ensuring interoperability and quantifiable improvements in performance and reliability. The framework employs system-agnostic techniques to reduce downtime and enable seamless transitions, validated through enterprise-scale testing. By standardizing migration practices, the approach reduces technical debt, optimizes resource utilization, and aligns technical strategies with business objectives. Additionally, it addresses schema translation challenges and provides actionable insights to streamline the migration process. This framework empowers organizations with a robust methodology to navigate the complexities of evolving enterprise data landscapes, delivering cost-effective solutions while maintaining operational continuity and fostering long-term scalability.*

Keywords: Cloud-native, Compatibility, Enterprise, Middleware, Validation