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Achieving High-Speed Data Consistency in Financial Microservices Platforms Using NoSQL Using Nosql (Mongodb, Redis) Technologies

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Abstract: *The transition from monolithic to microservices architecture has revolutionized software development, enabling greater scalability, flexibility, and deployment agility, especially in complex and high-demand sectors like financial services. However, this architectural evolution introduces significant challenges related to data consistency and integrity across distributed services. This review explores the integration of NoSQL databases—specifically MongoDB and Redis—within microservices-based financial platforms, addressing how they enhance data consistency, availability, and performance. By analyzing microservices principles, design challenges, and NoSQL databases' function in contemporary data architectures, the paper illustrates strategic approaches such as polyglot persistence, real-time analytics, and distributed data management techniques. A detailed comparison between MongoDB and Redis is presented, highlighting their use cases, scalability, and consistency models. Finally, this review demonstrates how NoSQL technologies enable scalable, independent, and resilient data management in financial microservices systems.*

Keywords: Microservices Architecture, Monolithic Architecture, Data Consistency, Financial Platforms, NoSQL Databases, MongoDB, Redis