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Scaling Beyond Limits: Migrating from Monolithic to Distributed Microservices

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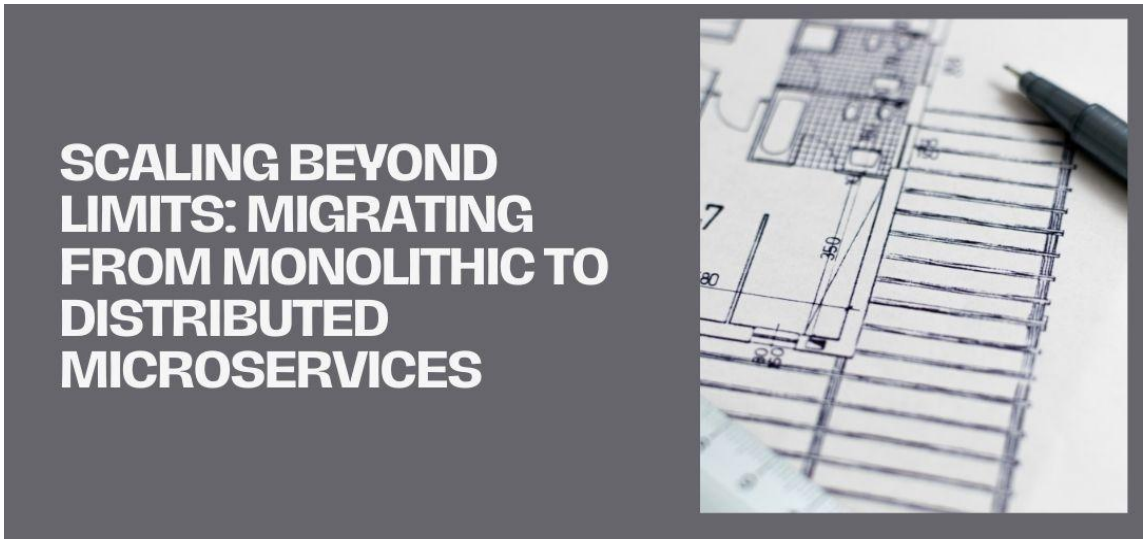

Abstract: *This article provides a comprehensive framework for navigating the complex transition from monolithic to microservices architectures in modern software systems. It explores the fundamental differences between these architectural paradigms, identifies key indicators suggesting when migration becomes necessary, and outlines a structured migration strategy encompassing assessment, design considerations, and implementation approaches. The article illuminates how containerization, orchestration, and service decomposition serve as foundational elements in successful migrations while addressing critical challenges in data management and operational readiness. Through examination of architectural patterns, business drivers, and implementation techniques, the article delivers practical guidance for organizations at any stage of their microservices journey, emphasizing that successful transformations balance immediate business continuity with long-term architectural goals. By addressing both technical and organizational dimensions of this architectural evolution, the content offers a roadmap for achieving the scalability, resilience, and development agility promised by distributed microservices.*

Keywords: Microservices migration, distributed architecture, containerization, service decomposition, domain-driven design

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