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LEVERAGING EVENT-DRIVEN ARCHITECTURES FOR LEGACY SYSTEM MIGRATION: THE SAP CONCUR EXPERIENCE

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ABSTRACT

Legacy system migration remains a critical challenge for enterprises aiming to modernize their operations while ensuring business continuity. This study explores how event-driven architectures (EDA) can be leveraged to streamline the migration of legacy systems, using SAP Concur as a case study. SAP Concur, a leading provider of travel and expense management solutions, implemented an event-driven approach to transition from legacy systems to a modern, cloud-based infrastructure. EDA facilitates real-time data processing and seamless integration by enabling systems to communicate through events, reducing downtime and operational disruptions during migration.

The research highlights key benefits of this approach, including improved scalability, flexibility, and fault tolerance. By breaking down monolithic applications into modular components connected through asynchronous event streams, SAP Concur achieved enhanced data flow and interoperability across its services. Additionally, the adoption of event-driven patterns allowed the system to manage complex data transformations and reduce dependencies on synchronous processing.

The case study delves into the specific challenges encountered during the migration, such as ensuring data consistency, handling legacy dependencies, and managing event failures. It also outlines the strategies employed to overcome these obstacles, including event retry mechanisms, message queues, and parallel processing. Through SAP Concur's experience, the study demonstrates that EDA not only simplifies migration but also lays the foundation for future innovation by enabling the seamless incorporation of new technologies. This paper provides valuable insights for enterprises seeking to transition from legacy systems while ensuring minimal disruption and maximum operational efficiency through event-driven architectures.

KEYWORDS: *Legacy System Migration, Event-Driven Architecture (EDA), SAP Concur, Cloud-Based Infrastructure, Real-Time Data Processing, Asynchronous Communication, Scalability, Fault Tolerance, Data Transformation, System Interoperability*

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