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BIG IDEA

Time for Software Architecture to Catch Up With the Event-Driven World

How Modern Software Architectures Are Event-Driven

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

This Constellation Big Idea report examines the evolution of enterprise architectures and how they have evolved over time. It delves into the details of the most recent approach, event-driven architecture, and discusses its advantages. The report concludes with a set of practical recommendations for CxOs who want to adopt event-driven architectures.

BUSINESS THEMES


New C-Suite


Future of Work


Data to Decisions

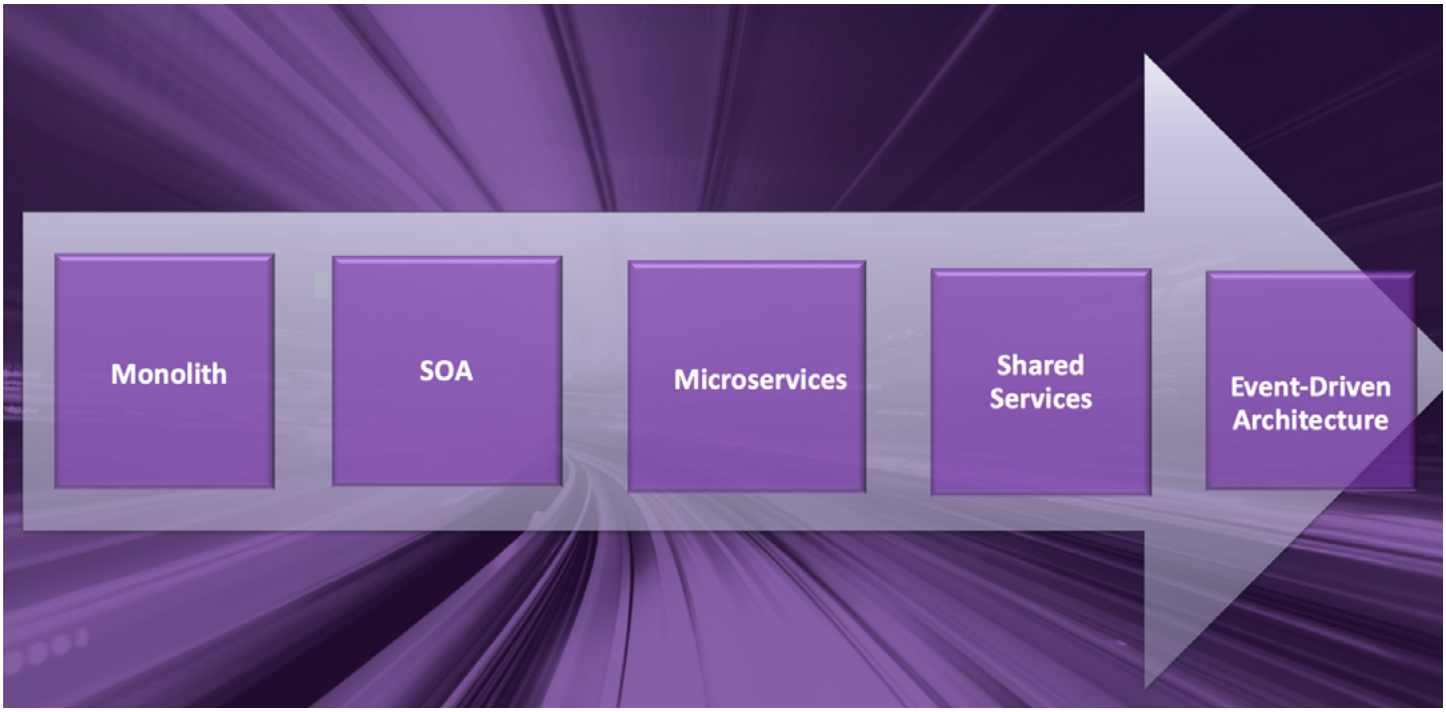

Technology Optimization

THE STATE OF SOFTWARE ARCHITECTURE

Software has been in production for only a few decades now and continues to quickly evolve from an architecture perspective. The underlying architecture concepts, heavily influenced by the operating hardware, pose limitations to what software can achieve. Recent progress by cloud infrastructure has enabled a new platform paradigm: the event-driven architecture (EDA) for enterprise applications. This report highlights the evolution of software architecture, the current inflection points to event-driven applications, the merits of an event-driven architecture, and how these architectures are the winner from a flexibility and TCO perspective, and then concludes with a set of recommendations.

How We Got Here: The Evolution of Software Architecture

Figure 1. The Evolution of Software Architectures

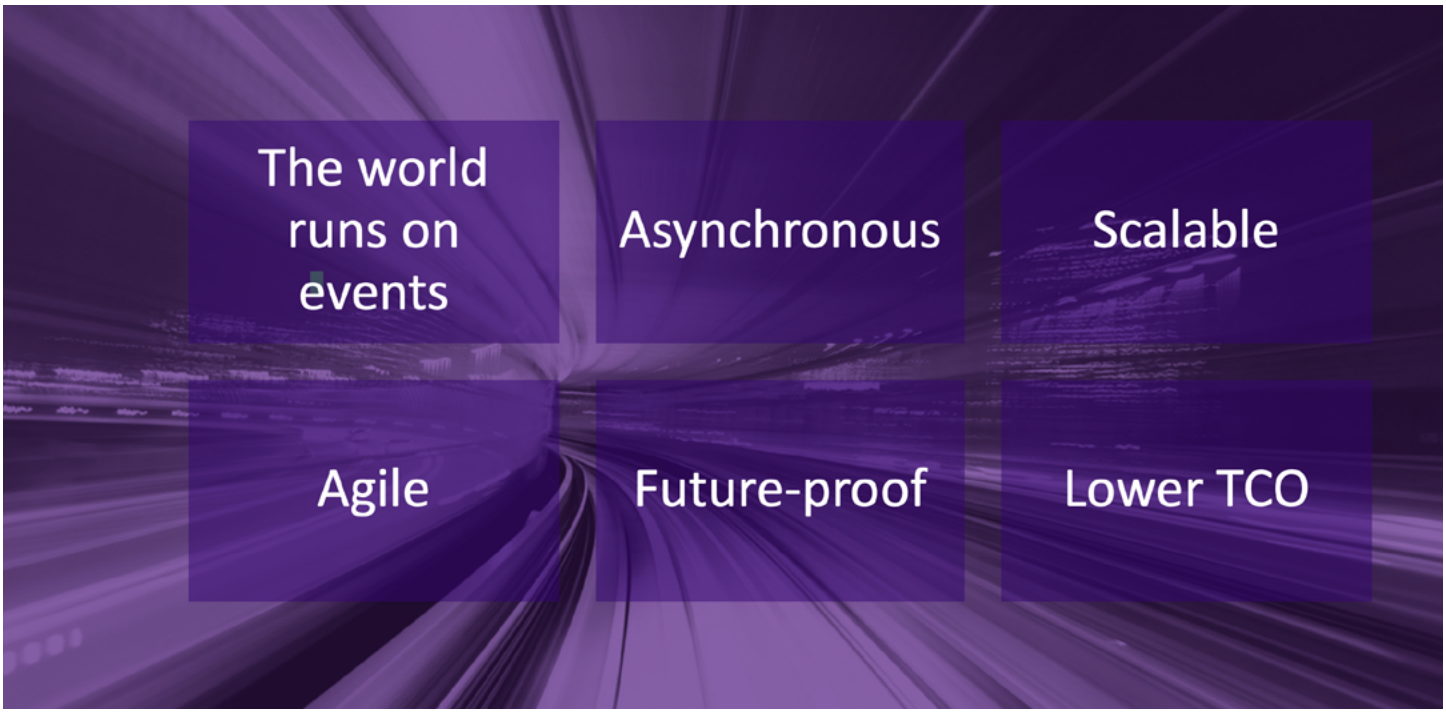


Source: Constellation Research

Why Event-Driven Architectures Are the Winner

There are several specific advantages for EDAs that make them the winner in the architecture competition, but as the competition is not all black-and-white, EDAs will coexist for a long time—if not forever. The following takes a look at the most prominent ones (see Figure 2):

Figure 2. Why Event-Driven Architectures Win



Source: Constellation Research

RELATED RESEARCH

For the CxO perspective on Enterprise Acceleration, see: Holger Mueller, "Why the C-Suite Must Embrace Enterprise Acceleration," May 2, 2019. https://www.constellationr.com/research/why-c-suite-must-embrace-enterprise-acceleration

For the people-leader perspective on the skills shortage and the need for Enterprise Acceleration, see: Holger Mueller, "Why People Leaders Must Embrace Enterprise Acceleration," Constellation Research, July 3, 2018. https://www.constellationr.com/research/why-people-leaders-must-embrace-enterprise-acceleration

For the importance of Infinite Computing, see: Holger Mueller, "Infinite Platforms Power Enterprise Acceleration," Constellation Research, October 11, 2019. https://www.constellationr.com/research/infinite-platforms-power-enterprise-acceleration

For more details on Infinite Computing, see: Holger Mueller, "The Era of Infinite Computing Triggers Next-Generation Applications," Constellation Research, June 1, 2018. https://www.constellationr.com/research/era-infinite-computing-triggers-next-generation-applications

For more on Business Acceleration Clouds (BACs), see: Holger Mueller, "Enterprise Acceleration Creates Imperative for Business Acceleration Clouds," Constellation Research, February 7, 2020. https://www.constellationr.com/research/enterprise-acceleration-creates-imperative-business-acceleration-clouds

For more on next-gen applications and PaaS offerings, see: Holger Mueller, "Why Next-Gen Apps Start With a Next-Gen Platform as a Service," April 5, 2018. https://www.constellationr.com/research/why-next-gen-apps-start-next-gen-platform-service

For a Constellation ShortList™ on PaaS vendors, see: Holger Mueller, "Constellation ShortList PaaS Tool Suites for Next-Gen Apps," Constellation Research, February 19, 2020. https://www.constellationr.com/research/constellation-shortlist-paas-tool-suites-next-gen-apps-3

Also: Holger Mueller, "Constellation ShortList PaaS Suites for Next-Gen Apps," February 27, 2018. https://www.constellationr.com/research/constellation-shortlist-paas-suites-next-gen-apps-3

For an example of digital transformation, see: Holger Mueller, "How Oracle GraalVM Supercharged Twitter's Microservices Platform," Constellation Research, December 11, 2019. https://www.constellationr.com/research/how-oracle-graalvm-supercharged-twitter-s-microservices-platform

ANALYST BIO

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Holger Mueller is a vice president and principal analyst at Constellation Research. He provides guidance for the fundamental enablers of the cloud, IaaS, and PaaS, with forays up the tech stack into big data, analytics, and SaaS. Mueller provides strategy and counsel to key clients, including chief information officers, chief technology officers, chief product officers, investment analysts, venture capitalists, sell-side firms, and technology buyers.

Prior to joining Constellation Research, Mueller was VP of products for NorthgateArinso, a KKR company. He led the transformation of products to the cloud and laid the foundation for new business-process-as-a-service (BPaaS) capabilities. Previously he was the chief application architect with SAP and was also VP of products for FICO. Before that he worked for Oracle in various management functions—on both the application development (CRM, Fusion) and business development sides. Mueller started his career with Kiefer & Veittinger, which he helped grow from a startup to Europe's largest CRM vendor from 1995 onward. Mueller has a Diplom-Kaufmann degree from the University of Mannheim, with a focus on information science, marketing, international management, and chemical technology. A native European, Mueller speaks six languages.

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