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Rapid scalability of complex and dynamic web-based systems: Challenges and recent approaches to mitigation (Conference Paper)

Malarvannan, M.^a , Ramaswamy, S.^b

^a Cybelink, United States

^b Department of Computer Science, University of Arkansas at Little, Rock AR 72204, United States

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Abstract

In this paper, we summarize and outline some of the big challenges in addressing performance, scalability, and availability of applications with large and complex backend database systems. We present some of the limitations imposed by the CAP theorem on distributed systems development and identify some approaches that can be used to effectively address these limitations. We propose the adoption of an effective System-of-Systems approach that pushes adoption of principles supported by loosely-coupled SPU based architecture, which can support incremental development and rapid scalability of such complex and dynamic applicative needs. © 2010 IEEE.

Indexed keywords

Back-end database; Distributed systems; Incremental development; System-of-Systems; Web-based system

Engineering controlled terms: Database systems; Scalability

Engineering main heading: Systems engineering

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Malarvannan, M.; Cybelink, United States; email:manim@ieee.org

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