Chapter 10
Cloud Computing Platforms

Kiran Peddireddy
Central Connecticut State University, USA

ABSTRACT

The advent of cloud computing has dramatically transformed our perceptions of IT infrastructure, software rollouts, and the scaling of services. As the cloud's prominence has risen, organizations can now sidestep hefty investments in tangible hardware and sideline extensive capacity planning concerns. This chapter embarks on a journey through the predominant platforms of cloud computing, exploring their distinct features, and guiding on the selection process tailored to individual requirements. The emergence of cloud technology has ushered in a new era in how we approach IT infrastructures, software implementations, and the expansion of services. With cloud computing taking center stage, companies are relieved from sinking large sums into on-premises hardware and are granted more flexibility in their resource allocation strategies. This chapter sheds light on the leading cloud computing ecosystems, their characteristic advantages, and offers insights into making an informed choice that aligns with specific needs.

INTRODUCTION

The advent of cloud computing has dramatically transformed our perceptions of IT infrastructure, software rollouts, and the scaling of services. As the cloud's prominence has risen, organizations can now sidestep hefty investments in tangible hardware and sideline extensive capacity planning concerns. This chapter embarks on a journey through the predominant platforms of cloud computing, exploring their distinct features, and guiding on the selection process tailored to individual requirements. The emergence of cloud technology has ushered in a new era in how we approach IT infrastructures, software implementations, and the expansion of services. With cloud computing taking center stage, companies are relieved from sinking large sums into on-premises hardware and are granted more flexibility in their resource allocation strategies. This chapter sheds light on the leading cloud computing ecosystems, their characteristic advantages, and offers insights into making an informed choice that aligns with specific needs.

In today's digital age, cloud computing has become a cornerstone, reshaping our viewpoints on IT infrastructure management, software distribution, and the versatility of service growth. The ascent of the cloud paradigm means organizations can bypass substantial capital expenditures in traditional

hardware and streamline their operational planning. In this chapter, we navigate the vast expanse of cloud computing platforms, highlighting their singular strengths, and furnishing guidelines for picking the most fitting solution for diverse needs. The dawn of cloud computing has signaled a sea change in our conceptualization of IT frameworks, the deployment of software solutions, and the adaptability of service enhancement. As the cloud's influence permeates, corporate entities find themselves freed from the constraints of heavy hardware investments and exhaustive capacity forecasting. This chapter ventures into the heart of cloud computing's dominant platforms, accentuating their individual offerings, and bestowing wisdom on the decision-making process to best match distinct demands (Braun et al., 2001; Kratzke & Quint, 2017; Wang et al., 2010).

Cloud computing's emergence has marked a significant pivot in the landscape of IT architecture, software introduction, and service scalability tactics. The cloud's ascent means that businesses have a reprieve from pouring vast resources into hardware and can adopt a nimbler approach to resource planning. This chapter dives deep into the major players in the cloud computing arena, elucidating their standout features, and offering a compass to navigate the selection process based on unique prerequisites.

UNDERSTANDING CLOUD COMPUTING

At its essence, cloud computing embodies the provision of a spectrum of services via the internet. This vast array encompasses aspects like data storage, database management, server access, network functionalities, software tools, data analytics, smart algorithms, among other offerings. Instead of sinking funds into setting up and maintaining their dedicated IT frameworks and data facilities, businesses have the option to lease a range of resources, from software solutions to storage capacities, courtesy of cloud service vendors.

Advantages

a. There are various types of KPIs metrics that organizations can utilize to measure different aspects of their performance. Some common types of KPIs include:
b. Economic Viability: Sidesteps the upfront financial commitment associated with hardware and software acquisition.
c. Adaptability: One of the standout perks of cloud-based services is their inherent ability to dynamically adjust to load demands.
d. Operational Excellence: Preeminent cloud platforms operate atop an expansive, fortified global data center network.
e. Swift Execution & Flexibility: Owing to the vast computational power at their disposal, cloud infrastructures offer nimble responses.
f. Robust Defense Mechanisms: A substantial number of cloud vendors proactively furnish a suite of protocols and innovative tools designed to enhance overall data safety and integrity.

Demystifying Cloud Computing: At a foundational level, cloud computing is the modern approach of offering a diverse set of digital services via online channels. This service spectrum is broad, covering storage solutions, database operations, server utilities, interconnected networking, diverse software applications, insightful analytics, and advanced intelligence processes. Rather than bear the burden and

Related Content

Evaluating the Performance of Monolithic and Microservices Architectures in an Edge Computing Environment
Nitin Rathoreand Anand Rajavat (2022). *International Journal of Fog Computing (pp. 1-18).*
www.irma-international.org/article/evaluating-the-performance-of-monolithic-and-microservices-architectures-in-an-edge-computing-environment/309139

A Novel Resource Management Framework for Fog Computing by Using Machine Learning Algorithm
Shanthi Thangam Manukumarand Vijayalakshmi Muthuswamy (2020). *Architecture and Security Issues in Fog Computing Applications (pp. 42-52).*
www.irma-international.org/chapter/a-novel-resource-management-framework-for-fog-computing-by-using-machine-learning-algorithm/236439

Investigating the Determinants of IT Professionals' Intention to Use Cloud-Based Applications and Solutions: An Extension of the Technology Acceptance
Sabah Abdullah Al-Somaliand Hanan Baghabra (2019). *Cloud Security: Concepts, Methodologies, Tools, and Applications (pp. 2039-2058).*
www.irma-international.org/chapter/investigating-the-determinants-of-it-professionals-intention-to-use-cloud-based-applications-and-solutions/224669

An IoT-Based Framework for Health Monitoring Systems: A Case Study Approach
N. Sudhakar Yadav, K. G. Srinivasaand B. Eswara Reddy (2019). *International Journal of Fog Computing (pp. 43-60).*
www.irma-international.org/article/an-iot-based-framework-for-health-monitoring-systems/219360

Big Data and Its Visualization With Fog Computing
Richard S. Segalland Gao Niu (2018). *International Journal of Fog Computing (pp. 51-82).*
www.irma-international.org/article/big-data-and-its-visualization-with-fog-computing/210566