JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Harnessing the Synergy: Integrating Cloud Computing and Design Thinking Principles for a Cloud Environment Management Platform

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Abstract: The task of managing IT operations with cloud computing has grown more complicated due to the increasing number of cloud providers and the extensive variety of services they offer. This complexity poses challenges for IT teams in effectively overseeing and controlling their cloud-based systems. Consequently, organizations are confronted with new hurdles in ensuring smooth operations and maintaining efficiency of their cloud environments. The expanded range of services also demands IT teams to handle multiple platforms, each with its own distinct tools and processes. This situation introduces fresh challenges for organizations in coordinating, monitoring, and optimizing their cloud-based systems across different providers and services. In this article, I describe the steps taken to merge leading cloud computing services with design thinking principles, offering a framework for cloud experts and IT leaders to develop a next-generation cloud environment management platform for either single or multi-cloud environment.

Keywords: **Cloud Environment Management Platform, Cloud Management Platform, CMP, Design Thinking, Cloud Service Providers, AWS, Azure, GCP, VMWare**

I. Introduction

Technological progress is rapidly reshaping the landscape, offering numerous opportunities for innovation. Cloud computing has become a pivotal force, compelling organizations to overhaul their IT operations management. The surge in cloud service providers and the diversity of cloud offerings have presented new challenges for IT departments, which now seek a smooth and effective cloud management experience. To tackle these issues, a comprehensive strategy that integrates the strengths of cloud computing with design thinking principles could potentially transform the cloud management field. This article explores a framework for developing a next-generation cloud environment management platform that leverages the synergy between these two powerful concepts: cloud computing and design thinking.

II. The Challenge:

Developing a system capable of seamlessly integrating and managing diverse cloud services from multiple providers in a centralized and user-friendly way poses significant challenges. This task requires moving away from conventional IT operations management practices and associated issues. Consequently, managing cloud resources demands a flexible platform that could meet the rapidly evolving needs of cloud operations management. This includes accommodating a multi-cloud environment and adopting a methodology that encouraged innovative problem-solving, emphasized collaboration, and prioritized stakeholder engagement and IT and business satisfaction. This complex yet vital effort lays the groundwork for this ambitious project.

III. Key Steps of Implementation FRAMEWORK:

Step 1: Understanding 'What Needs to Work' and 'Defining the Problem'

The initial step involves identifying the major issues associated with traditional IT operations management that the solution must either circumvent or resolve. Next, it is crucial to identify the key requirements of IT teams, followed by assembling a list of cloud services that necessitate operations management. Together, this information defines the problem that the cloud environment management platform should be designed to solve. This step is essential for setting the stage for the design and development of this innovative solution.

Step 2: Brainstorming 'Creative Solutions'

The subsequent phase involves assembling the most talented individuals to evaluate which cloud services or third-party solutions can address the previously identified issues. Cloud service providers offer an extensive and ever-evolving array of cloud service options. As a result, the emphasis should be on utilizing as many cloud services as possible to create a solution suitable for either a native or multi-cloud environment. Third-party products may also be utilized, particularly when cloud services fall short of expectations or when a better solution for a multi-cloud environment can be crafted. Thus, this step is central to the framework and must be executed with precision to achieve exceptional outcomes.

Step 3: Developing and Testing Minimum Viable Product (MVP)

With a clear understanding of 'what needs to be done' now established, the subsequent step involves creating a minimum viable product (MVP) to validate the methodology and evaluate the hypotheses. This MVP will function as the initial prototype, intended not only to gather preliminary feedback and adjust the work backlog but also to measure the thoroughness of compliance and security protocols in place, particularly those concerning data protection and compliance.

Step 4: Establishing Feedback Loops

To ensure that this CMP stays pertinent and in tune with shifting business demands, it is essential to foster open communication, actively gather continuous feedback, and consistently integrate stakeholder input. This approach is essential for refining the CMP's features, functionality, usability, and overall effectiveness, enabling it to respond to shifting market dynamics and user demands.

Step 5: Driving Continuous Improvements and Innovation

As cloud service providers expand their range of offerings, enhancing automation capabilities and advancing AI-driven operational support (AIOps), it is crucial for the CMP to remain adaptable to future developments. Consequently, fostering ongoing improvements and innovation is essential to keep pace with the changing technological landscape.

IV. Impact and Outcomes:

Utilizing this strategic approach, a pioneering cloud environment management platform, poised to revolutionize the management of cloud operations, can be developed. This solution will harness the cutting-edge features of cloud computing into IT operations, significantly alleviating the workload of IT teams and enabling business leaders to achieving meaningful business outcomes.

V. Conclusion:

The swift evolution of technology not only disrupts established work methods but also creates opportunities for innovation and transformation. Crafting a sophisticated solution like a cloud environment management platform requires a strategic combination of visionary insight, cloud computing expertise, a solid understanding of creative problem-solving techniques such as design thinking, advanced business process knowledge, collaboration, and a willingness to engage in iterative experimentation. This approach is essential for designing and developing a solution that remains relevant in the future. By adhering to or building upon the framework presented in this article, cloud specialists and IT leaders can effectively navigate the complexities of building such a transformative solution. My own experience in developing such a groundbreaking solution underscores the power of innovation in achieving technological success by nurturing a culture of innovation, collaboration, continuous improvement, and creative thinking.