AN INTEGRATED PLATFORM APPROACH

Automating Cloud Environments

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Executive Summary

As technology advances, companies worldwide are adopting cloud solutions to boost innovation, flexibility, and efficiency. Yet the growing intricacy of these cloud systems presents substantial hurdles for organizations striving to manage and optimize their digital infrastructure. This white paper explores the challenges of managing complex cloud environments, the limitations of traditional approaches, and presents a9s Cloud Foundry as a comprehensive solution for streamlined cloud operations.

Introduction

In today's rapidly evolving digital landscape, businesses across industries are increasingly relying on cloud environments to drive innovation, enhance scalability, and improve operational efficiency. However, as these cloud environments grow in complexity, organizations face significant challenges in managing and optimizing their infrastructure effectively.

Accenture reports that migrating areas of a business to the public cloud can cut Total Cost of Ownership (TCO) by as much as 40 percent. Meanwhile, Gartner analysts assert that more than 85 percent of organizations will embrace a cloud-first principle by 2025 and will not be able to fully execute on their digital strategies without the use of cloud-native architectures and technologies.

The Challenge of Managing Complex Cloud Environments

Modern cloud environments often encompass a multitude of services, applications, and data stores spread across various platforms and locations. This complexity introduces several challenges: efficiently allocating and scaling resources, maintaining uniform configurations across different environments, ensuring robust security measures and adherence to industry regulations, and continuously monitoring and fine-tuning system performance to meet business needs.

The Need for Automation in Modern Cloud Infrastructure

To address these challenges, automation has become essential. Cloud automation offers numerous advantages: minimizing human error, streamlining repetitive tasks, accelerating the provisioning of resources and deployment of applications, ensuring uniform configurations, and enabling rapid scaling of resources in response to changing demands.
Gartner estimates that more than 95 percent of new digital workloads will be deployed on cloud native platforms by 2025. This follows IDC reports that indicate that organizations leveraging cloud-native technologies and practices can achieve significant improvements in product deployment speed, resulting in up to a 50 percent reduction in time-to-market for new products and services.

The Current State of Cloud Automation

While many organizations have begun to implement automation in their cloud environments, the approaches and results vary widely.

According to Gartner, through 2024, nearly all legacy applications migrated to public cloud infrastructure as a service (IaaS) will require optimization to become more cost-effective. Cloud spend inefficiency remains a challenge for many organizations, with some reports suggesting that up to 30 percent of cloud expenditure may be wasted. This highlights the potential for substantial cost savings through improved management and automation.

Common Pain Points in Cloud Management

Despite advancements in cloud technologies, businesses still face several challenges:

- Siloed automation that doesn't integrate well with other systems
- Difficulty in finding and retaining talent with expertise in cloud automation technologies
- The use of multiple disconnected tools for different aspects of cloud management
- Ensuring that automated processes adhere to organizational policies and industry regulations
- Difficulties in automating processes that involve legacy systems or applications

Limitations of Traditional Approaches

Traditional approaches to cloud automation often fall short in several ways. Point solutions address specific needs but fail to provide a comprehensive approach to cloud management. Many solutions struggle to scale effectively as cloud environments grow and become more complex. Some automation tools are tightly coupled with specific cloud providers, limiting multi-cloud or hybrid cloud strategies. Additionally, traditional automation often requires extensive scripting and maintenance, increasing the burden on IT teams and focusing solely on infrastructure provisioning, neglecting other crucial aspects like web application deployment and data service management.

As organizations navigate their digital transformation journeys, many are seeking to infuse cloud-inspired solutions into their existing on-premise infrastructure. This trend is particularly evident in environments hosting business-critical applications and general-purpose workloads. While these systems may already leverage virtualization, they often lack the advanced automation and self-service capabilities that characterize modern cloud environments, primarily due to their bespoke nature.

However, the path to a cloud-inspired on-premise environment is not without its challenges. Enterprises embarking on this transformation must carefully consider how their deployments will align with public cloud requirements. This foresight is crucial for maintaining flexibility and enabling potential future hybrid or multi-cloud strategies.