PopUp Mainframe: The Platform to Pioneer Agile DevOps Mainframe Development

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Executive Summary

In recent years, mainframes have undergone significant changes to adapt to modern software development. Once seen as monolithic and resistant to change, they are now evolving rapidly. Organizations are rethinking mainframe development by incorporating Agile and DevOps methodologies. This shift ensures shorter, more efficient deployment cycles. It's a crucial transition that keeps mainframes vital in business operations while meeting the demands of fast-paced digital transformation.

Mainframes are no longer just legacy systems; they are dynamic and integral to modern IT strategies.

One ongoing difficulty in mainframe development is guaranteeing data compliance and security, especially in regard to data masking. Traditionally, the practice of data masking in mainframe environments has been complex and burdensome. Nevertheless, modern technologies offer an innovative and ready-to-use approach that completely transforms this aspect. This not only promotes adherence to strict compliance requirements but also greatly simplifies the process, transforming what was once a challenging activity into a straightforward and manageable task. This development showcases significant progress in mainframe data management, establishing a new benchmark for the industry.

Another key challenge is that setting up mainframe test environments is a complex and time-consuming process, often requiring several weeks to months due to the intricacies involved in replicating production environments accurately.

The costs associated with this setup are substantial, as they include expenses for specialized hardware, software licenses, and highly skilled personnel to manage and configure the environments. Additionally, ongoing maintenance and updates further increase the total cost of ownership, making it a significant investment for organizations.

To manage these changes, mainframe clients should focus on speeding up development processes and streamlining the onboarding of new developers. Embracing modern methodologies like Agile and DevOps will enhance responsiveness and flexibility within mainframe environments.

Additionally, prioritizing the modernization of tools and systems for continuous integration and continuous delivery is essential. Comprehensive training programs and mentorship are vital for equipping new talent with the skills to navigate mainframe complexities.

By adopting these strategies, organizations can ensure their mainframe systems remain robust, agile, and future-ready.

The Changing Role of the Mainframe

Mainframe systems have long been the backbone of mission-critical applications in banking, insurance, and government, prized for their rock-solid performance, transactional muscle, and robust security. Traditionally, these powerhouses operated within rigid frameworks, characterized by lengthy development cycles focused on stability over speed. While effective in a slower technological era, these models are now under pressure as businesses demand greater flexibility and quicker market responses.

But the game is changing. Mainframes are evolving to meet these new demands, embracing shorter development cycles and integrating seamlessly into wider enterprise IT initiatives.

Agile and DevOps methodologies are now making their way into mainframe teams, driving faster updates and aligning more closely with modern software practices. This marks a significant shift, transforming mainframes from isolated giants to agile, indispensable parts of a cohesive IT strategy.

Moreover, mainframes are increasingly connected within hybrid IT environments, linking up with cloud platforms and services. This heightened connectivity is a game-changer for data management and control, requiring advanced tools to handle complex, multi-system data flows.

With better connectivity, organizations can synchronize data and perform real-time analytics, harnessing their mainframe investments to generate dynamic insights and outcomes. This evolution means mainframe infrastructure is now more flexible and better equipped to support the digital transformation efforts of today's businesses.

Recommendations

As mainframe systems advance and become part of modern IT environments, it is essential for organizations to use strategic methods that improve their operational flexibility and technological capacity.

The following recommendations are created to help mainframe clients not only keep up with industry trends but also take the lead in innovation and efficiency. By adopting these methodologies, organizations can be sure that their mainframe environments are solid, responsive, and well prepared to confront the demands of a constantly evolving digital environment.

1. **Adopt Agile and DevOps Practices:** We advocate the adoption of Agile methods and DevOps practices to improve adaptability and responsiveness in mainframe development. By using these modern software development methodologies, mainframe teams can expedite deployment cycles, enhance efficiency, and more closely align with the ever-changing requirements of the organization. By prioritizing ongoing improvement and quick adaptation to change, Agile and DevOps methodologies have the potential to convert mainframe development from an obstacle to a driver of business operations.

2. **Make an Investment in Modernization:** It is vital to update mainframe environments using solutions that enable continuous integration (CI) and continuous delivery (CD) pipelines. This modernization enhances operational efficiency and provides smooth integration of mainframe systems with modern development environments. Organizations may attain error reduction, decreased downtime, and increased development speed by implementing automated testing and deployment solutions.

3. **Optimize Onboarding and Training:** We propose strategies for efficiently onboarding new developers, which involve hands-on training programs and mentorship from established mainframe developers. These initiatives aim to expedite the process of learning and easily integrate new developers into the mainframe environment. By receiving thorough instructions and gaining practical experience, newcomers can make valuable contributions to mainframe projects without the need of the customary steep learning curve.

4. **Implement Virtual Mainframe Solutions:** We suggest utilizing virtual mainframe solutions such as PopUp Mainframe to decrease reliance on hardware and reduce costs. Virtual mainframes offer a flexible, scalable, and cost-efficient option to conventional physical mainframes. They enable organizations to replicate physical environments for development, testing, and training without the need for significant upfront investment.

5. **Compliant Data Handling:** Masking mainframe data with out-of-the-box solutions effectively overcomes tackling a longstanding and complex issue that has affected the industry. Options like PopUp Mainframe in partnership with Delphix offer adherence to data protection standards and efficiently safeguard sensitive information. With the growing importance of data masking for compliance and security, using a modern solution that streamlines this procedure is a major benefitt.

6. **Prioritize Collaboration and Integration:** In order to promote innovation while establishing a holistic approach to development, we recommend the development of collaborative teams that include both mainframe and non-mainframe developers. This strategy not only encourages the development of diverse abilities and the exchange of knowledge but also allows for a breakdown of barriers between different development teams. Cross-platform collaboration promotes a unified IT strategy and utilizes a wide range of knowledge to spur innovation.

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Where Does PopUp Mainframe Fit in the DevOps Landscape?

Virtual Testing at Speed: PopUp Mainframe acts as a centralized enabler for rapid and secure development and testing environments for mainframe systems by providing on-demand, virtual mainframe environments that facilitate development and testing without impacting physical systems.

This allows organizations to adopt DevOps practices on the mainframe, traditionally lagging behind distributed systems in terms of automation and agility. By enabling the use of modern tools and utilities in a zero-risk environment, PopUp supports faster and more efficient development cycles.

PopUp technology can easily integrate with any cloud strategy, whether cloud-native, bare metal, private cloud, or on-premises setups.

Modern DevOps Approach: The ability to quickly stand up and tear down mainframe instances on x86 hardware, whether on-premises or in the cloud, aligns with the DevOps principles of continuous integration and continuous delivery (CI/CD). PopUp's support for modern IDEs, automation tools, and simplified governance processes helps streamline the development lifecycle, reducing dependency on specialized skills and minimizing downtime risks associated with mainframe changes.

Partner Integration: PopUp's integration with key tools such as those from BMC and Delphix for continuous data and time travel capabilities allows for advanced testing strategies, like shifting left and parallel testing. This enhances the ability to perform thorough testing early in the development cycle, accelerating project timelines and improving software quality.

By bridging the gap between mainframe and DevOps, PopUp enables organizations to modernize operations in line with contemporary development practices.

Rapid Prototyping and Flexibility: The flexibility of PopUp Mainframe allows organizations to incorporate it into their infrastructure without causing disruptions. This provides a foundation for DevOps teams to innovate and evolve quickly.

PopUp Mainframe facilitates rapid prototyping and testing, letting developers experiment with new tools and methodologies while minimizing risks and investments. The fail-fast approach promoted by PopUp enables rapid testing and quick decision-making, ensuring that only the most efficient solutions are pursued.

Efficiency and Savings: PopUp Mainframe's virtualization capabilities, powered by Delphix Continuous Data, offer 10x data compression and significant storage savings, greatly improving efficiency.

Additionally, this technology offers self-service environment provisioning, enabling developers to take snapshots and go back or forward in time as needed. These characteristics make it easier to manage test environments, significantly lowering the complexity and cost usually involved with traditional mainframe setups.

Democratized Access: PopUp Mainframe provides equitable access to mainframe technologies, allowing both new and experienced developers from distributed application backgrounds to utilize them. The integration of this accessibility with established DevOps toolchains allows for accelerated deployment and scalability of testing resources.

PopUp Mainframe comes with a range of pre-packaged tools, including both proprietary and open-source options. These tools cater to customer needs, connecting traditional mainframe development with modern DevOps techniques. This integration speeds up the execution and setup process and promotes a collaborative atmosphere where developers can utilize their experience on many platforms to bring innovation to the mainframe. This reduces the cost of change and enables organizations to remain on the mainframe while delivering innovation and updates without incurring exorbitant expenses.

By lowering financial barriers, companies can maintain and modernize their mainframe environments, ensuring they can continuously evolve their systems and processes. This approach not only preserves the value of existing mainframe investments but also supports ongoing operational improvements and strategic agility, allowing organizations to respond swiftly to market demands and technological advancements without facing prohibitive costs.

PopUp Transforms L&G Application Modernization - Legal & General (L&G) is one of the world's largest asset managers, overseeing $1.7 trillion in assets and employing 10,000 people. The company offers a wide range of financial services, including insurance, pensions, and investment management, serving millions of customers globally.

PopUp Mainframe played a crucial role in Legal & General's (L&G) mainframe modernization by providing innovative solutions that significantly enhanced development agility and efficiency. PopUp's pre-built "mainframe in cloud" artifacts enabled L&G to establish genuine, fully supported z/OS mainframe Dev/Test environments swiftly. This capability allowed L&G's development teams to spin up and down test environments in hours instead of months, fostering a culture of autonomy and rapid iteration.

PopUp's support was instrumental in integrating contemporary DevSecOps practices, reducing time to market for new features and improving overall development productivity. By facilitating seamless transitions and minimizing downtime, PopUp Mainframe ensured that L&G could maintain their mainframe's reliability and performance while modernizing their development processes.

This partnership not only mitigated risks associated with mainframe modernization but also positioned L&G to continue leveraging their mainframe's strengths effectively in a rapidly evolving technological landscape.

Conclusion and Looking Ahead

The mainframe ecosystem is always evolving. Incorporating modern techniques like Agile and DevOps, along with solutions like PopUp Mainframe, is crucial. These advancements rejuvenate mainframe infrastructures and align them with the rapid pace of IT innovation.

Mainframes remain resilient, secure, and scalable for essential business activities. They are becoming more adaptable to today's organizational needs.

Embracing change and innovation in mainframe practices is vital. In a competitive digital economy, sticking to outdated approaches risks falling behind. Revolutionizing mainframe procedures is not just about relevance; it's a strategic necessity.

Organizations can gain a competitive edge by fostering a culture of continuous improvement and modern technology integration, transforming their mainframes into dynamic assets.

Mainframes are expected to maintain their crucial role in enterprise IT. However, they will undergo significant changes to stay innovative and adaptable. Integrating mainframes with AI, machine learning, and cloud technologies will open new avenues for data processing and analytics, boosting efficiency and decision-making. With a growing focus on sustainability, mainframes could lead green computing due to their efficient data processing capabilities.

The future is promising, and strategic modifications will keep mainframes essential in managing today's digital complexities.

Important Information About this Report

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ABOUT POPUP MAINFRAME

PopUp Mainframe revolutionizes mainframe development and testing with on-demand virtual z/OS environments. Their platform seamlessly integrates with cloud strategies and DevOps tools, enabling agile operations, reducing costs, and ensuring data security. Businesses are invited to adopt PopUp Mainframe to modernize their mainframe infrastructure and accelerate IT projects.

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The Futurum Group is an independent research, analysis, and advisory firm, focused on digital innovation and market-disrupting technologies and trends. Every day our analysts, researchers, and advisors help business leaders from around the world anticipate tectonic shifts in their industries and leverage disruptive innovation to either gain or maintain a competitive advantage in their markets.